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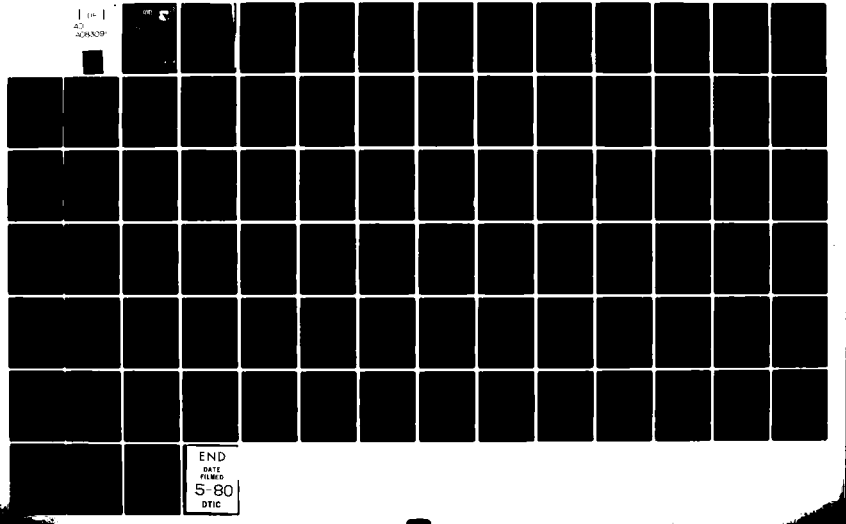

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SAMPLING METHODOLOGY DEVELOPED FOR PRELIMINARY SACDEF STUDY

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JANUARY 1980

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AMRL-TR-78-33

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This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER

CHARLES BATES, JR.
Chief
Human Engineering Division
Air Force Aerospace Medical Research Laboratory

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20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

A survey of the combat-ready SAC navigator/radar navigator crew force for the B-52G/H fleet was conducted in July 1976. The data reported relate to variables associated with crew experience (age, rank, flying hours, instructor status, months together as a team, etc.). Team variables were derived from the data on individual crew members and an intercorrelation table was computed.

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20. Abstract (Cont'd)

Since these data were to be used for selecting a sample of crews from G model bases not having an Automated Offset Unit by February 1977, the overall crew force was broken down into four subgroups (G vs. H bases, with and without AOU) for some analysis.

An analysis of variance was performed using total flying hours as the dependent variable. Crew types (ready, lead, and select) were found to have statistically significant differences in flying hours for all contrasts. Bases which had AOU equipped G model aircraft were found to have a significantly larger number of total flying hours. Failure to reject the null hypothesis for non-AOU equipped G model bases was interpreted to imply that the sample from this sub-population would be representative of the overall crew force in terms of total flying hours.

SUMMARY

The Strategic Avionics Crewstation Design Evaluation (SACDEF) Facility has been established to evaluate human engineering concepts for controls and displays design and for equipment layout for the electronic warfare and bombing navigation systems of the B-52. Combat ready Strategic Air Command crew members serve as the experimental subjects in these studies. The crew members are selected on a scientific basis using statistical sampling techniques.

This report documents the survey of navigators and radar navigators for the B-52 G and H that were combat ready as of July 1976. It explains the nature of the data collected, summarizes some of the analyses performed on these data, and identifies some of the problems encountered. Recommendations are made about the way the survey and selection procedures should be conducted in the future.

Some of these data summaries may be of interest for other purposes. Appendices have been included in this report to provide a variety of statistics computed from the crew survey data. As subsequent surveys are conducted, these statistics may provide a basis for observing trends in various attributes of the combat ready crew force, at least for the G and H models of the B-52.

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INTRODUCTION

This report describes the sample technique developed in support of a preliminary performance workload study using Strategic Air Command (SAC) navigator/radar navigator teams. The data were obtained from a crew survey inititated in the Spring of 1976. The crew data provided in this paper describe the combat ready crew force for B-52 G/H navigator/radar navigator teams as of July 1976.

This effort had two goals. The primary purpose was to choose a representative sample of combat ready SAC crews to serve as participants in the preliminary study of operator workload. The criterion used to define "representativeness" was selected on the basis of an extensive review of the demographic data from the entire crew force. This process also led to the identification of variables which could be eliminated in future surveys.

The secondary purpose of this effort was to create a data base for predicting performance proficiency from the data provided in response to the questionnaire. Given the actual performance data from the workload study, it would be desirable to learn what combination(s) of variables in the survey data best discriminate between various levels of crew performance. If these predictors were known, then data from future surveys could be used more efficiently to select a sample of crews which best represent distinguishable levels of proficiency.

The study for which these crews were selected was primarily an effort to pretest materials to be used in a much larger study late in 1977. This larger study will establish the "baseline" workload for each crew position (i.e., navigator and radar navigator) in an Automated Offset Unit (AOU) equipped, G-model, B-52 navigator/radar navigator study crew station. The preliminary study used a non-AOU G-model crew station configuration. It was therefore necessary to segment the crew force according to the AOU versus non-AOU equipped aircraft* and bases with G versus H model aircraft. Samples were then selected from that segment of the crew force using G model aircraft that were not AOU equipped by the time of the study (February, 1977).

* Non-AOU actually refers to those aircraft which would be AOU equipped only *after* the scheduled date for the preliminary study.

METHOD

Approach

A questionnaire (Figure 1) was distributed through channels to each B-52 bomb wing for completion by the SAC navigator/radar navigator crews. Twenty-four variables were identified per crew member (see Table 1 for data format and Appendix A for a listing of data). Seven variables served as identifiers for each crew. They were variables 1, 13, 19, 21, 22, 23 and 24. The data were coded using one card per crew member utilizing the coding conventions as shown in Table 2.

The first task in choosing the sample was to evaluate the distribution of each variable across all crews. A general software program HISLOG (see Appendix B) was used. This program calculated the mean, standard deviation, skewness, maximum value, minimum value and number of cases for each variable. There were other options available in the program, but it was felt that without a prior knowledge of the data the simplest analysis approach would prove to be the most useful.

After the initial run, it was decided that the crew members should be evaluated as a two-man team and only against other crew members with the same responsibility, (i.e., navigator compared against navigator and radar navigator against radar navigator). Therefore, the variables were redefined and several new variables were created as defined in Table 3, variables 45 through 64. These derived variables represent team data and are obtained by combining data items provided for each individual on the team. Because the navigator and radar navigator may differ in their degree of experience, mean values were calculated for variables 45-64 (see Table 3) to reflect an overall index of team experience. Variables 45-48 represented the total number of hours spent in three models of B-52 aircraft (D, G, and H) respectively.

TABLE 1

DATA INPUT FORMAT
(1X, F8.1, 4F9.1, 9X, 5F2.0, 7F1.0, F2.0, 2F1.0, F2.0, 1X, F2.0)

Field	Content Description	Card Columns	
1.	AOU or Non-AOU	1 - 1x	
2.	Hours spent in Model D aircraft	2- 9 - F8.1	
3.	Hours spent in Model G aircraft	10-18	4F9.1
4.	Hours spent in Model H aircraft	19-27	
5.	Hours spent with SRAM	28-36	
6.	Hours spent with EVS	37-34	
7.	Subject's last name	46-54 - 9x	
8.	Rank	55-56	5F2.0
9.	Age	57-58	
10.	Instructor's Status	59-60	
11.	Number of months on team	61-62	
12.	Number of re-assignments	63-64	
13.	Unit's proficiency rating	65	7F1.0
14.	Positions held in D aircraft	66	
15.	Positions held in G aircraft	67	
16.	Positions held in H aircraft	68	
17.	Positions held with SRAM	69	
18.	Positions held with EVS	70	
19.	Air Force Base	71	
20.	Subject Number	72-73 - F2.0	
21.	Mini team	74	2F1.0
22.	Team type (E = 0, R = 1, S = 2)	75*	
23.	Crew number	76-77 - F2.0	
24.	Air Force Base	79-80 - F2.0	

* Recommend recoding as: (R = 1, E = 2, and S = 3)

Instructions: Complete this questionnaire only for integral N/RN teams currently in mission ready status on numbered crews.

Unit_____ Crew Number_____ Mini-Team: Yes_____ No _____

Part 1: Navigator

Name: _____
Last First Initial

Current Rank (01-05): _____ 1 = Stanboard
Age to nearest year: _____ 2 = Line Instructor
Instructor Status: _____ 3 = Non-Instructor
(1, 2, or 3)

B-52 Flying Time by Model and Position

Model	Total Time (hours)	Position (N, RN or both)
B-52D	_____	_____
B-52G	_____	_____
B-52H	_____	_____

Total B-52 flying time - SRAM equipped: _____ hours
Total B-52 flying time - EVS equipped: _____ hours
Number of months on present team: _____ months
Total number of team assignments: _____
Current In-Unit Proficiency Level: (1, 2, or 3): _____

Part 2: Radar Navigator

Name: _____
Last First Initial

Current Rank (01-05): _____ 1 = Stanboard
Age to nearest year: _____ 2 = Line Instructor
Instructor Status: _____ 3 = Non-Instructor
(1, 2, or 3)

B-52 Flying Time By Model and Position

Model	Total Time (hours)	Position (N, RN or both)
B-52D	_____	_____
B-52G	_____	_____
B-52H	_____	_____

Total B-52 Flying Time - SRAM equipped: _____ hours
Total B-52 Flying Time - EVS equipped: _____ hours
Number of months on present team: _____ months
Total number of team assignments: _____
Current In-Unit Proficiency Level (1, 2, or 3): _____

Figure 1. B-52G/H Navigator/Radar Navigator Data Questionnaire

TABLE 2

CODING CONVENTIONS

Field	Content	Description	Code Used
1.	AOU	Bases with AOU	1
		Bases without AOU	0*
7.	Rank	2nd Lt	1
		1st Lt	2
		Capt	3
		Lt. Col.	4
		Col	5
9.	Instructor's Status	Non-instructor	3
		Line-instructor	2
		Standboard	1
13-17.	Positions	Navigator	1
		Radar Navigator	2
		Both	3
19.	Air Force	East - 8th A.F.	0*
		West - 15th A.F.	1
21.	Mini Team Member	Yes	1
		No	0*
22.	Crew Type**	E	0*
		R	1
		S	2
24.	Air Force Base	68th BW	1
		42nd BW	2
		320th BW	3
		92nd BW	4
		97th BW	5
		410th BW	6
		28th BW	7
		319th BW	8
		5th BW	9
		416th BW	10
		19th BW	11
		449th BW	12
		2nd BW	13
		379th BW	14

* Zeroes should not be used if BMD05-D programs will be exercised. Recode as 1,2,3 (as appropriate) instead.
** Recommend recoding as follows: (R = 1, E = 2, S = 3).

BMD01D was used to compute general statistics (mean, sigma, range, Maximum X, Minimum X, sample size, and the standard error of the mean for the population (Appendix C) and BMD02D was used to compute a correlation matrix (Appendix D). The set of BMD analysis routines are described in Dixon (1968). BMD01D also serve ' as a check that the input data for BMD02D and HISLOG were in the correct order.

The computer output listings for all runs using the BMD routines comprise two separate binders referred to here as Supplements I and II, respectively. Selected contents have been extracted from these listings and included in this report. In some cases, results are discussed that treat specific issues which did not appear important enough to warrant transcription for inclusion in this report. The interested reader is referred to the appropriate section of the Supplements where these results are documented. Since there is only one copy of the Supplements, readers interested in copies of specific information may address their request to the authors.

TABLE 3

DEFINITIONS OF VARIABLES PER CREW

Variable Number	
1	Hours spent in D model aircraft by navigator
2	Hours spent in G model aircraft by navigator
3	Hours spent in H model aircraft by navigator
4	Hours spent in SRAM equipped aircraft by navigator
5	Hours spent in EVS equipped aircraft by navigator
6	Navigator's rank (1-5)
7	Navigator's age
8	Navigator's instructor rating (1, 2 or 3)
9	Number of months on current team
10	Number of reassignments
11	Team's proficiency rating (1, 2 or 3)
12	Positions held in D aircraft by navigator
13	Positions held in G aircraft by navigator
14	Positions held in H aircraft by navigator
15	Positions held in SRAM equipped aircraft by navigator
16	Positions held in EVS equipped aircraft by navigator
17	Air Force I.D. number (1 or 2)
18	Subject number (odd numbered sequence)
19	Mini-team member (1 = yes, 0 = no)
20	Team type (E = 0, R = 1, S = 2)
21	Team number
22	Base number
23	Hours spent in D model aircraft by radar navigator
24	Hours spent in G model aircraft by radar navigator
25	Hours spent in H model aircraft by radar navigator
26	Hours spent in SRAM equipped aircraft by radar navigator
27	Hours spent in EVS equipped aircraft by radar navigator
28	Radar navigator's rank
29	Radar navigator's age
30	Radar navigator's instructor rating
31	Number of months on current team
32	Number of reassignments
33	Unit's proficiency rating (1, 2 or 3)
34	Positions held in D aircraft by radar navigator
35	Positions held in G aircraft by radar navigator
36	Positions held in H aircraft by radar navigator
37	Positions held in SRAM equipped aircraft by radar navigator
38	Positions held in EVS equipped aircraft by radar navigator
39	Air Force I.D. number (1 or 2)
40	Subject number (even numbered sequence)
41	Mini-team member (1 = yes, 0 = no)
42	Team type (E = 0, R = 1, S = 2)
43	Team number
44	Base number
45	Hours in G and H aircraft by navigator: vars $X_2 + X_3 = X_{45}$
46	Total flying hours by navigator: vars $X_1 + X_{45} = X_{46}$
47	Hours in G and H aircraft by radar navigator: vars $X_{24} + X_{25} = X_{47}$
48	Total flying hours by radar navigator: vars $X_{23} + X_{47} = X_{48}$
49	Team's average flying hours in D aircraft: vars $(X_1 + X_{23}) 2 = X_{49}$
50	Team's average flying hours in G aircraft: vars $(X_2 + X_{24}) 2 = X_{50}$
51	Team's average flying hours in H aircraft: vars $(X_3 + X_{25}) 2 = X_{51}$
52	Team's average hours in SRAM equipped aircraft: vars $(X_4 + X_{26}) 2 = X_{52}$
53	Team's average hours in EVS equipped aircraft: vars $(X_5 + X_{27}) 2 = X_{53}$
54	Team's average rank: vars $(X_6 + X_{28}) 2 = X_{54}$
55	Team's average age: vars $(X_7 + X_{29}) 2 = X_{55}$
56	Team instructor ratings: vars $X_8 + X_{30} = X_{56}$
57	Average months on current assignment per team: $(X_9 + X_{31}) 2 = X_{57}$
58	Average number of reassignments per team: $(X_{10} + X_{32}) 2 = X_{58}$
59	Unit's proficiency rating: vars $X_{11} + X_{33} = X_{59}$
60	Team's positions in D aircraft: vars $X_{12} + X_{34} = X_{60}$
61	Team's positions in G aircraft: vars $X_{13} + X_{35} = X_{61}$
62	Team's positions in H aircraft: vars $X_{14} + X_{36} = X_{62}$
63	Average team hours in G and H aircraft: vars $(X_{45} + X_{47}) 2 = X_{63}$
64	Average team total flying hours: vars $(X_{46} + X_{48}) 2 = X_{64}$

The three software programs (BMD01D, BMD02D and HISLOG) were run under the following strata (see Supplements I and II):

Strata	*Supplement*	*Sample Size*
1. All Crews*	I	269
2. Bases With H Model Aircraft	I	102
3. Bases With G Model Aircraft	I	167
4. Ready Teams (R)	I	150
5. Lead Teams (E)	I	72
6. Select Teams (S)	I	47
7. H Bases With AOU	II	64
A. Ready Teams	II	This sort by team
B. Lead Teams	II	type occurred
C. Select Teams	II	within each base type (Strata 8, 9, and 10)
8. H Bases Without AOU	II	38
9. G Bases With AOU	II	54
10. G Bases Without AOU	II	113

*Five crew members were eliminated because they had not been assigned to a crew at the time this survey was conducted.

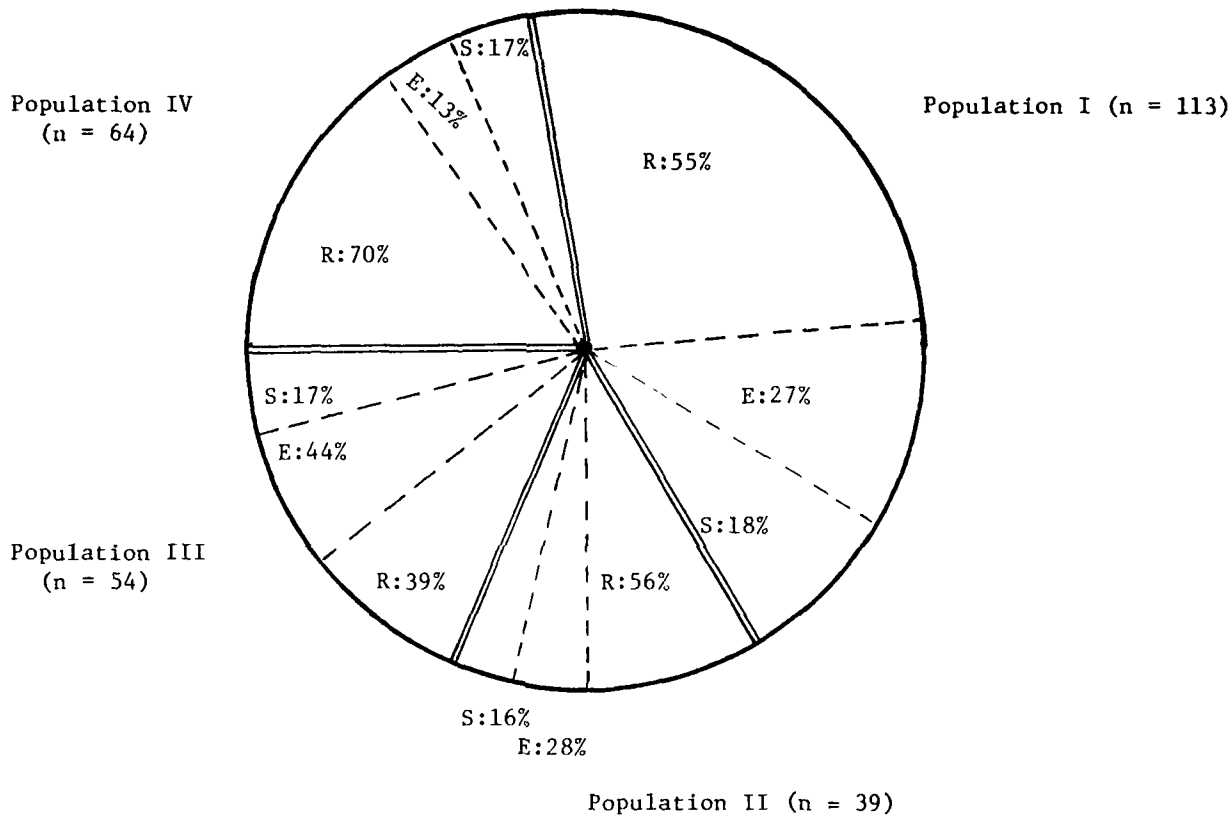
Theoretical Issues

Data used to define the proficiency of the B-52 navigator/radar navigator population should describe the distribution of experience related variables encountered when selecting candidate variables as sampling indexes. The variables must be useful as predictors of performance proficiency, (i.e., combat readiness at some point in time). Changes in the population created by reassignment, retirement, training, and other factors alter the population's characteristics as time passes. The variable(s) used as a performance predictor may therefore lose accuracy due to time lags between sample selection and the commencement of data collection for the experiment.* Therefore, it is important that the sampling index and variables used as performance predictors represent relatively stable measures. A second problem is in defining "representativeness." Also, sampling procedures and sample size are influenced or driven by practical constraints (time, money, etc.). These constraints can work against any attempt to make the sample representative of the population. The bias induced by "sampling error" cannot be assessed. Random selection is designed to preclude systematic bias but does not guarantee accurate predictions. There are other techniques for trying to pick a "representative" sample that are more systematic than simple random sampling. The choice of an appropriate technique should therefore be addressed.

Two additional constraints limited the population from which the sample for this preliminary study was chosen. First, the AOU equipment was being installed throughout the fleet and secondly, the AOU implementation schedule was such that three out of five bases with H model aircraft would have AOU installed at the commencement of the preliminary study. This study was to be run in a non-AOU configured crewstation.

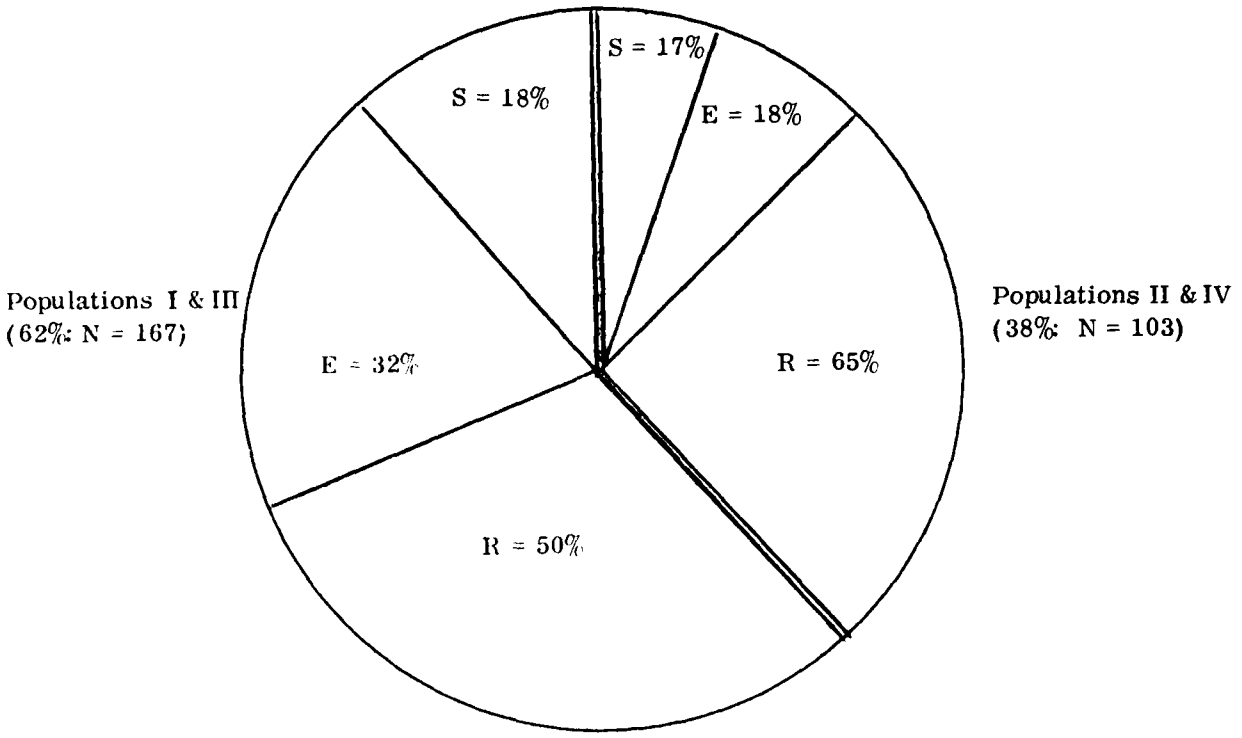
In absence of prior data about actual crew performance, the sampling was stratified based upon crew type, R = Ready, E = Lead, and S = Select. As implied by these labels, S crews should be more proficient (and less numerous) than E crews, and they in turn should be more proficient (and less numerous) than R crews. The crew type ratings were therefore assumed to represent relatively homogeneous proficiency levels in crew performance. Figure 2 summarizes the percentage of R, E, and S crews in each of the four "sub"-populations of the overall crew force for B-52 G/H aircraft. Figure 3 presents these same data summarized by model (G vs. H).

* Similarly, the predictive validity of the experimental data and conclusions derived from analyses of these results can also be degraded by time varying population changes.



Population I: Bases with G Model Aircraft without AOU
Population II: Bases with H Model Aircraft with AOU
Population III: Bases with G Model Aircraft with AOU
Population IV: Bases with H Model Aircraft without AOU

Figure 2. Distribution of Navigator/Radar Navigator Teams by Team Type (R = Ready, E = Lead, S = Select)



DISTRIBUTION OF CREWS BY TYPE (N = 270)

Population	R Teams	E Teams	S Teams
I	62	30	21
II	45	8	11
III	21	24	9
IV	22	11	6

Figure 3. Proportionate Division of Crew Types within Bases with G versus H Model Aircraft.

The crew type (R, E, and S) thus provided a reasonable method for stratifying the sample. The sub population (G bases without AOU) distribution of variables (flying hours, age, rank, etc.) appeared equivalent to the entire crew force (see Supplements I and II). An analysis of variance (see Appendix F) verified each of these strata had significantly different amounts of flying hours.

This analysis of variance (ANOVA) was performed to determine whether the sub population (non-AOU equipped G bases) had an average number of flying hours that was atypical of the other sub populations. It was discovered that the G model bases that *were* equipped with AOU had a significantly *larger* average (flying hours) than any of the other sub populations. The difference between G and H bases not equipped with AOU was not statistically significant. It should be noted that statistical tests are geared to test for differences, and failure to detect significant differences does not necessarily imply equivalence.

Based on this analysis, the sample was selected on a proportionate sampling basis. With a sample size of six crews, the proportionate breakdown by crew type resulted in 3-R crews, 2-E crews, and 1-S crew.

Sampling Index

A review of the correlation matrix for the crew force showed that variable 64, the average number of total flight experience per crew, correlated with the greatest number of variables (see Table 4). The variables in Table 4 are rank ordered from highest *r* value to the lowest according to their correlation with variable 64. Because of the large sample size (N = 269), any correlation value greater than 0.1946 is statistically significant at the .05 level. The original matrix is in Supplement I. If two variables are correlated highly enough, one might be eliminated as a candidate predictor of crew proficiency. Since the coefficient of determination is based on squaring the correlation coefficient, a value of r = .30 was used as a cut-off for screening candidate predictors. It is interesting to note that 10 variables with an r >0.30 are from the radar navigators' data, 7 with an r >0.30 are team data, and only 6 variables with an r >0.30 are from navigators' data. The frequency distribution (see Supplement I) of variable 64 was positively skewed with a mean value of 724.7431 hours and a standard deviation of 358.8322. Additional descriptive statistics are in Appendix E of this paper.

The variables in Table 4 were then checked in the population to verify their correlational strength (see Table 5 and Supplement II). Because these relationships remained relatively constant, it was then decided that variable 64 was a good variable to use as the sampling index.

When variable 64 was calculated within each strata (see Table 4), it appeared to be a realistic predictor of crew proficiency. Its distribution also supported the use of the proportionate sampling approach. The analysis of variance (Appendix F) indicated that S crew flying hours were significantly larger (on the average) than E crew flying hours and that E crew hours were significantly greater than R crew flying hours. This refutes the assertion that there is one single population which well describes the flying hours of the overall crew force and supports the premise that a stratified sampling strategy should be employed.

TABLE 4

CORRELATION MATRIX OF VARIABLES WHICH CORRELATED WITH THE CRITERION VARIABLE (VARIABLE 64-AVERAGE FLYING HOURS PER TEAM) FROM THE ENTIRE SAC NAVIGATOR/RADAR NAVIGATOR POPULATION

Variables	63	50	48	47	24	2	38	37	46	45	58	32
63	1.0000	.5290	.7711	.9277	.5929	.2578	.4178	.4019	.4634	.4586	.3750	.2823
50		1.0000	.3788	.4789	.9523	.8107	.1781	.1923	.2868	.2977	.1324	.1034
48			1.0000	.8107	.4891	.0609	.4358	.4198	.1739	.1746	.4129	.4251
47				1.0000	.6151	.0831	.4911	.4699	.1478	.1535	.3153	.3116
24					1.0000	.5934	.2524	.2648	.1475	.1532	.1545	.1571
2						1.0000	-.0145	-.0007	.4736	.4912	.0530	-.0288
38							1.0000	.9218	-.0479	-.0247	.3444	.3740
37								1.0000	-.0412	-.0181	.3189	.3481
46									1.0000	.9823	.2760	.0274
45										1.0000	.2667	.0299
58											1.0000	.8926
32												1.0000
54												
28												
35												
20												
42												
49												
61												
23												
59												
11												
8												

Variables	54	28	35	20	42	49	61	23	59	11	8
63	.4327	.3600	.2145	.3196	.3144	.1876	.1746	.1729	-.4023	.3784	.4577
50	.2952	.2005	.8652	.0848	.0722	.0637	-.8420	.0568	-.2576	-.2542	-.2631
48	.3837	.4464	.1821	.1857	.1879	.6993	.1213	.7018	-.2333	-.1277	-.2926
47	.3789	.4297	.2081	.2269	.2279	.1536	.1502	.1519	-.2319	.1448	-.2913
24	.2897	.2614	.8015	.0665	.0556	.0800	.7682	.0772	-.1882	-.1462	-.2167
2	.2230	.0274	.7445	.0959	.0959	.0146	.7833	.0017	-.3184	-.3899	-.2781
38	.3847	.5142	.2260	.1793	.1690	.1218	.1320	.1382	.1139	.0251	-.1608
37	.3722	.4937	.2419	.1872	.1770	.1209	.1425	.1369	.1144	.0164	-.1691
46	.2385	.0287	.0825	.3367	.3212	.1680	.2367	.1138	-.5269	-.6683	-.5362
45	.2731	.0364	.0888	.3236	.3074	.1130	.1164	.1080	-.5310	.0081	-.5411
58	.0828	.2738	.1548	.2034	.2033	.3266	.0628	.3135	1578	-.1800	-.2921
32	.1978	.2894	.0782	.0985	.1041	.3335	.0511	.3384	.0548	.0218	-.1544
54	1.0000	.7628	.2285	.1947	.1800	.2048	.1947	.1868	-.0828	-.1694	-.2498
28		1.0000	.2007	.1038	.1102	.2301	.1517	.2307	.1112	.0443	-.0715
35			1.0000	.1046	.0285	.0539	.9697	.0542	.0322	-.1103	-.1182
20				1.0000	.9831	.0594	.0334	.0879	.2232	-.2655	.6524
42					1.0000	.0615	.0478	.0399	.2232	-.2508	-.6524
49						1.0000	.0274	.9937	1324	.0579	.1601
61							1.0000	.0221	.0822	1074	1065
23								1.0000	.0116	.0395	1397
59									1.0000	7645	.5502
11										1.0000	5393
8											1.0000

TABLE 5

CORRELATION MATRIX OF VARIABLES WHICH CORRELATED WITH THE CRITERION VARIABLE (VARIABLE 64-AVERAGE FLYING HOURS PER TEAM) FROM BASES WITH G MODEL AIRCRAFT WITHOUT AOU

Variables	63	50	48	47	24	2	38	37	46	45	58	32
63	1.0000	.9668	.9091	.9232	.8794	.5150	.4846	.4846	.4995	.5035	.3754	.3767
50		1.0000	.8685	.9001	.9241	.4998	.4746	.4746	.4599	.4699	.3754	.4596
48			1.0000	.9840	.9243	.1579	5805	.5805	.1350	.1324	.3414	.4006
47				1.0000	.9608	.1579	.5579	.5579	.1329	.1312	.3211	.3796
24					1.0000	.1308	.5405	.5405	.0994	.9608	.2780	.3290
2						1.0000	.0062	.0062	.9678	.9742	.3439	.1275
38							1.0000	1.0000	.0037	.0044	.4031	.4596
37								1.0000	.0037	.0044	.4031	.4596
46									1.0000	.9934	.3579	.1200
45										1.0000	.3616	.1181
58											1.0000	.8693
32												1.0000
54												
28												
35												
20												
42												
49												
61												
23												
11												
8												

Variables	54	28	35	20	42	49	61	23	59	11	8
63	.3539	.3592	.3780	.3567	.3567	.2072	.3585	.1880	.3603	.3835	.4401
50	.3096	.3332	.4200	.3115	.3115	.0972	.4046	.0851	-.3380	-.3590	.4138
48	.3002	.4301	.4678	.2560	.2560	.3562	.3772	.3713	-.1382	.1075	.2454
47	.2718	.4148	.4736	.2399	.2399	.1903	.3883	.1998	-.1555	-.1143	-.2474
24	.1425	.3890	.5070	.1926	.1926	.0603	.4230	.0765	-.1335	-.1016	-.2263
2	.3000	.0171	.0596	.3714	.3714	.1155	.0909	-.0475	-.5740	-.7011	.5603
38	.3112	.4605	.8411	.1719	.1719	.2160	.7332	.2850	.0949	.0380	.1180
37	.3112	.4605	.8411	.1719	.1719	.2160	.7332	.2850	.0949	.0380	.1180
46	.0113	.0105	.0818	.3908	.3908	.1559	.0473	.0587	-.5849	-.7353	.5839
45	.3018	.0063	.0666	.3807	.3807	.1066	.0518	.1998	-.5797	-.7324	5788
58	.3145	.2406	.3378	.3579	.3579	.2100	.3090	.2040	-.1940	-.3104	.3189
32	.2908	.1102	.3892	.2552	.2552	.2198	.3058	.2248	.1720	-.1177	.1784
54	1.0000	.7265	.1498	.2653	.2653	.3120	.1829	.2343	-.0511	-.1939	-.1953
28		1.0000	.3704	.2151	.2151	.0560	.7337	.2036	.1667	.0979	.0046
35			1.0000	.0305	.0305	.2222	.3377	.1046	.1886	.0380	-.0576
20				1.0000	1.0000	.1996	.0794	.1575	-.2666	.3245	.6107
42					1.0000	.1996	.0794	.1575	-.2666	.3245	.6107
49						1.0000	.0411	.9665	.0167	-.0675	.1174
61							1.0000	.0509	.0382	.0280	.0976
23								1.0000	.0503	.0041	.0602
59									1.0000	.7235	.6545
11										1.0000	.6282
8											1.000

Sampling Strategy

A systematic sampling procedure was used in lieu of simple random sampling. The following criteria were used for crew selection:

1. Since only one S team was to be chosen, it should be the most representative of the Select crews. Therefore, the navigator's total number of flying hours (Var 46), the radar navigator's total number of flying hours (Var 48), and the crew's average number of flying hours (Var 64) should fall with ±1 standard deviation of their respective mean in the overall crew force.

2. One E crew and one R crew should be selected on the same basis, where their flight experience (Var 46, 48 and 64) should be representative of their stratum. This would facilitate crew performance comparisons across strata.

3. One E and one R crew was selected so as to emphasize the differences in flying hours between the navigator and radar navigator but maintaining a representative average number of crew flying hours. This selection strategy paired a relatively less-experienced navigator with a relatively more-experienced radar navigator while maintaining the average team hours at a representative level. As was previously mentioned, two E crews and three R crews were to be selected.

4. The final R crew had a highly experienced navigator with a relatively inexperienced radar navigator. This crew would be the rarest case since navigators typically upgrade to the radar navigator position. The reversal of experience represented in this case is therefore not typical but represents an extreme condition. The team chosen was again picked such that the average team flying hours were as close to the average R team hours as possible to assure "representativeness" in this sense.

Normally, random sampling would be used within the strata. Since the sample size was already quite small and the purpose of the preliminary study was basically exploratory, this systematic sampling procedure allowed the examination of the technique itself without severely impacting the baseline study to be conducted later.

The logistics of this procedure were subsequently found to make it impractical to implement with the rate of crew turnover experienced between the survey and the study. A random selection procedure would not only be more scientific, it would also be more practical in this case.

TABLE 6

DISTRIBUTION OF TEAM FLYING HOURS AMONG STRATA

Group	N	$\bar{X}$	S.D.
SAC (All Crews)	269	724.7431	358.8322
SAC (G Bases)	167	731.5852	359.4050
G Bases With AOU	54	801.4785	479.9370
R Crews	21	611.5703	259.6460
E Crews	24	820.2625	525.2678
S Crews	9	1194.5266	499.3796
G Bases Without AOU	113	698.1914	278.1433
R Crews	62	620.7317	210.6208
E Crews	30	647.7734	228.3969
S Crews	21	998.9363	314.6035
SAC (H Bases)	102	713.6786	357.5861
H Bases With AOU	64	710.9185	360.2913
R Crews	45	620.4223	218.6224
E Crews	8	648.0559	178.9041
S Crews	11	1126.8528	571.8977
H Bases Without AOU	38	718.2236	353.0313
R Crews	22	634.8782	263.8948
E Crews	10	701.1355	366.5623
S Crews	6	1055.1663	410.9234

TABLE 7

SAMPLE DIFFERENCES VERSUS POPULATION VALUES (OCTOBER, 1976)

NAMES (TEAM)	VAR 46		VAR 48		VAR 64	
	$\bar{X}$	s.d.	$\bar{X}$	s.d.	$\bar{X}$	s.d.
Population - S Teams	717.1140	171.9165	1280.7617	599.6726	998.9380	307.2717
S1:	158.8860		- 63.7617		47.5620	
S1a:	144.8860		19.2383		82.0620	
Population - E Teams	443.8398	188.3563	851.7097	399.1624	647.7748	228.3969
E1:	- 93.8396		98.2903		2.2250	
E1a:	- 16.8396		- 48.7097		- 32.4724	
E2:	- 273.8396		-241.7079		- 257.7748	
E2a:	- 283.8396		148.2930		- 67.7748	
Population - R Teams	461.3643	196.0726	780.1074	421.7866	620.5000	210.6208
R1:	188.6357		-160.1074		14.5000	
*R1a:	11.3600		- 5.1100		7.5000	
R2:	61.3643		1019.8926		500.0000	
R2a:	- 96.3643		649.8926		277.0000	
R3:	388.6357		- 630.1074		- 120.5000	
*R3a:	349.6357		- 188.5000		1.0000	

* These teams were replacements because the preferred teams were unavailable.

RESULTS AND DISCUSSION

Two samples were chosen, six primary and six alternate crews (see Table 7). They were selected on a nonrandom basis as just described. Because of crew turnover, it also became desireable to attempt to have approximately equal numbers of crews from each of the available bases. Some of the crews were replaced several times by SAC until January, 1977 when the sample shown in Table 8 was committed to the study.

At the outset, there was some concern about the personnel having mini-team experience* since this might be "nonrepresentative" of conventionally trained crews, where the radar navigator has first served as navigator before upgrading. It turned out that mini-teams were not evenly distributed in the four groups. They were a small proportion of the overall crew force, and they dominated the select crew breakout. Therefore, the mini-team issue does not appear critical in the sampling effort. Given the current maturity of these crews, one would expect that any performance differences should have been attenuated by the years of intervening training and experience. In effect, the impact of being a select crew and the impact of having been on a mini-team should be indistinguishable in the study results.

The command has significant shifts in the level of experience compared to levels typical a decade ago. This fact is reflected in the statistical summaries of rank and age (Variables 6, 28 and 54, and Variables 6, 29, and 55 respectively). See Appendix E for the mean, standard deviation, and range of these and other selected variables. The reader is cautioned that many of the variables evidence marked skewness so that calculations of percentiles for these distributions using normal theory assumptions would be tenuous. Appendix E shows evidence of this by providing data on the minimum and maximum values for each of these variables along with the computed index of skewness. A normally distributed set of values has no skewness, so larger values of skewness potentially reflect appreciable deviations from what would be expected if the values had been generated by a Gaussian process.

Flying hours (Variables 1-3, 23-25, and 45-51 in particular) are especially suspect. The source of the non-normality lies with the few remaining members of the crew force who have accumulated a large amount of flying time. They constitute "outliers" in the crew force population. This tends to bias the average upwards as well as inducing skewness. No attempt was made to drop these crewmembers from the data pool, but as they move off the active crew list, one should expect the averages of these crew data to decrease. The distributions may also then lose some (but probably not all) of their skewness.

Table 6 shows the correlations among the variables. These data must be cautiously interpreted since the analyses are predicated on normal theory assumptions which have already been questioned. The intent of this analysis was to see which information might be deleted in future surveys. If one variable correlates highly with another, then it is a good predictor of the other, and one might choose to ask for one but not both. It is important, however, to consider the squared correlation value as a rough index of predictability (coefficient of determination). None of the correlations is large and their squared values will be even smaller (e.g., if $r = .7$, then $r^2 = .49$). These correlations do not, by themselves, seem to support the notion that some question(s) should be deleted from the survey.

They do suggest, though, that rank and age are correlated well enough that rank may not be a required item. Age provides a finer graduation of values and might prove to be the better of the two as a predictor variable. Unit proficiency and instructor status did not correlate as well as we naively expected, although the reasons for this may be apparent to HQ-SAC.

Once the performance data are available, regression analyses can be performed to search for a combination of survey questions that best serve the purpose of selecting a representative sample of crews based on their performance capability.

* In mini-teams, the radar navigator had no prior navigator experience; they trained as a crew from the outset.

TABLE 8

SAMPLE DIFFERENCES VERSUS POPULATION (JANUARY, 1977)

NAMES (TEAM)	VAR 46 $\bar{X}$	VAR 46 s.d.	VAR 48 $\bar{X}$	VAR 48 s.d.	VAR 64 $\bar{X}$	VAR 64 s.d.
Population - S Teams	717.1140	171.9165	1280.7617	599.6726	998.9380	307.2717
*S1:	-200.2140		-477.7617		-338.9880	
S1a:	144.8860		146.2383		145.5620	
Population - E Teams	443.8398	188.3563	851.7097	399.1624	647.7748	228.3969
E1:	93.8396		98.2903		2.2252	
*E1a:	- 16.2398		- 51.7097		- 33.9748	
E2:	-273.8398		-241.7097		-257.7748	
E2a:	-283.8398		148.2903		- 67.7748	
Population - R Teams	461.3643	196.0726	780.1074	421.7866	620.5000	210.6208
R1:	31.6357		- 100.1074		- 30.5000	
*R1a:	134.9643		-487.8074		-311.1500	
R2:	68.6357		389.8926		229.5000	
R2a:	NO DATA		299.8926		NO DATA	
R3:	98.6357		-630.1074		-265.5000	
*R3a:	11.3643		- 5.1074		- 8.0000	

* These teams violate sampling criteria and were replacements by SAC.

RECOMMENDATIONS

1. The questionnaire should include a category indicating the number of hours and assignments in which that crew has been together.

2. The survey should be conducted as close to the commencement of the data collection phase of the experiment as possible. This would reduce the number of iterations in the selection process that occurred during this effort.

3. Because of the high turnover rate, it is recommended that crews be asked if they know the date of their next assignment. If they do, and that date conflicts with their being scheduled to participate, there is little purpose in selecting them as part of the sample. It may also be useful to ask crews to report the departure date, base, and duties of their previous assignment.

4. It was learned that the exclusion of height and weight information in the survey was a serious oversight. Since the studies to be conducted are intended to provide a basis for evaluation the human engineering design of the crewstation, the sample must "represent" not only "experience" but "size variations" in the crew force. While these considerations would not be the basis for selecting the sample, they should be employed in screening the selection to preclude bias toward either extreme (all tall or all short subjects).

APPENDIX A

DATA LISTING

BASES WITH H MODEL AIRCRAFT WITHOUT AOU E TEAMS

1	.0	.0	339.0	200.0	139.0	0229030502200111017 0009	6
1	428.0	.0	956.0	711.0	556.0	0330030508110333018 0009	6
1	25.0	.0	570.0	570.0	570.0	0228031402120222020 0010	6
1	25.0	.0	613.0	613.0	613.0	0327031402110111019 0010	6
1	.0	.0	480.0	480.0	360.0	0227031101200111023 0012	6
1	105.0	.0	650.0	500.0	300.0	0330030205310333024 0012	6
1	.0	.0	291.0	291.0	190.0	0225030801200111029 0015	6
1	120.0	.0	490.0	490.0	490.0	0227030803120222030 0015	6
1	.0	.0	366.0	366.0	290.0	0226031201200111031 0016	6
1	80.0	.0	655.0	655.0	655.0	0327031203120222032 0016	6
1	.0	.0	452.0	452.0	452.0	0227031002100111033 0017	6
1	100.0	.0	738.0	738.0	850.0	0328031003210333034 0017	6
1	.0	.0	425.0	425.0	380.0	0225032001200111035 0018	6
1	.0	.0	430.0	430.0	250.0	0228031201200222036 0018	6
1	.0	.0	347.0	347.0	22.0	0228030901300111 30021	12
1	.0	.0	930.0	250.0	30.0	0328020903200333 40021	12
1	.0	.0	400.0	300.0	30.0	0329030801200111029 0015	12
1	1500.0	1100.0	600.0	300.0	20.0	0335020702111222030 0015	12
1	.0	.0	300.0	300.0	120.0	0225030701300111031 0017	12
1	.0	.0	610.0	340.0	.0	0228031818100223032 0017	12

R TEAMS

1	.0	.0	201.0	201.0	201.0	02280302013001110 70104	6
1	.0	.0	853.0	853.0	853.0	0328030605300333 0 80104	6
1	.0	.0	228.0	228.0	228.0	0329030302300111 0 90105	6
1	150.0	.0	1100.0	900.0	600.0	0328030404310333010 0105	6
1	110.0	.0	550.0	550.0	550.0	0227030203110111011 0106	6
1	200.0	.0	1200.0	600.0	300.0	0328030204210333012 0106	6
1	.0	.0	227.0	227.0	227.0	0226030301300111013 0107	6
1	100.0	.0	791.0	791.0	791.0	0327030305310333014 0107	6
1	.0	.0	569.0	569.0	470.0	0227031104100111015 0108	6
1	.0	.0	450.0	450.0	450.0	0228031102100222016 0108	6
1	.0	.0	608.0	608.0	608.0	0227020708100111021 0111	6
1	100.0	.0	810.0	810.0	700.0	0327030702310333022 0111	6
1	.0	.0	304.0	304.0	200.0	0226030601200111027 0114	6
1	.0	.0	451.0	451.0	295.0	0226030602200222028 0114	6
1	.0	.0	700.0	700.0	200.0	0227031002100111037 0119	6
1	.0	.0	355.0	355.0	205.0	0225031001200222038 0119	6
1	.0	.0	310.0	310.0	212.0	0224030501300111039 0120	6
1	.0	.0	463.0	463.0	463.0	0226030503100222040 0120	6
1	.0	.0	299.0	299.0	194.0	0224030701200111041 0121	6
1	.0	.0	398.0	398.0	398.0	0126030702100222042 0121	6
1	.0	.0	460.9	460.9	7.2	02270305032001110 10105	12
1	.0	.0	400.0	500.0	17.0	0330030506300333 0 20105	12
1	.0	.0	510.0	510.0	25.0	0227031201300111 0 50104	12
1	.0	.0	453.0	453.0	16.0	0231030701300222 0 60104	12
1	.0	186.3	506.5	692.5	27.0	0227030502302122 0 90120	12
1	.0	.0	400.0	400.0	30.0	0225031212200222010 0120	12
1	.0	.0	200.0	200.0	140.0	0124030201300111011 0119	12
1	.0	.0	481.0	400.0	8.0	0328030204200222012 0119	12
1	.0	.0	600.0	250.0	10.0	0227031401200111013 9112	12
1	240.0	.0	1100.0	400.0	120.0	0330030503310333014 0112	12
1	.0	.0	420.0	420.0	14.0	0227031202200111015 0118	12
1	.0	.0	2550.0	480.0	14.0	0227031204200222016 0118	12
1	.0	.0	436.0	436.0	10.0	0227030402200111017 0111	12

BASES WITH H MODEL AIRCRAFT WITHOUT AOU
R TEAMS (Cont'd)

1	95.0	.0	808.0	420.0	192.0	0327030404310333018011	12
1	.0	.0	400.0	.0	420.0	0225030807200101019011	12
1	200.0	.0	700.0	400.0	8.0	0330020809330333020011	12
1	.0	.0	521.0	500.0	.0	0225031003200110021011	12
1	.0	.0	350.0	350.0	.0	0229031003200220022011	12
1	.0	.0	250.0	250.0	125.0	0228030203300111023010	12
1	250.0	.0	1100.0	250.0	80.0	0330030208310333024010	12
1	110.0	.0	600.0	600.0	24.0	0227023001110111027111	12
1	110.0	.0	600.0	600.0	24.0	0227033001120222028111	12
1	.0	.0	253.0	253.0	140.0	0227030501300111033011	12
1	300.0	.0	880.0	500.0	16.0	033002050731033330340110	12

S TEAMS

1	.0	.0	850.0	750.0	750.0	03270114061001110 10201	6
1	1000.0	.0	2000.0	950.0	950.0	04340114071303330 20201	6
1	.0	.0	548.0	548.0	548.0	02310109021001110 30202	6
1	385.0	.0	1200.0	900.0	600.0	03300105051103330 40202	6
1	.0	.0	589.0	589.0	589.0	02260102061001110 50203	6
1	100.0	.0	900.0	900.0	750.0	03270102093103330 60203	6
1	.0	.0	360.0	240.0	240.0	0227021601100111025021	6
1	100.0	.0	850.0	800.0	750.0	0327021602120222026021	6
1	.0	.0	750.0	400.0	100.0	03260107041001110 70203	12
1	.0	.0	1230.0	450.0	80.0	03300107052003330 80203	12
1	.0	.0	500.0	350.0	30.0	0226010604100111025020	12
1	.0	.0	1300.0	400.0	30.0	0328010605100333026020	12

BASES WITH H MODEL AIRCRAFT WITH AOU
E TEAMS

0	110.0	.0	720.0	650.0	640.0	0229022801120222212800	8
0	120.0	.0	720.0	650.0	640.0	0229022004110111127002	8
0	.0	.0	500.0	500.0	400.0	0226031601100111131102	8
0	.0	.0	500.0	500.0	400.0	0329031601100222132102	8
0	.0	.0	875.0	775.0	200.0	032803040330033304011	14
0	.0	.0	200.0	200.0	200.0	012803070130011103911	14
0	.0	.0	500.0	400.0	200.0	02260302023001110 10008	14
0	150.0	.0	1400.0	500.0	200.0	03290302043103330 20008	14
0	.0	.0	500.0	350.0	75.0	02290307033001110 50005	14
0	85.0	.0	800.0	500.0	300.0	03280205022103330 60005	14
0	.0	.0	282.0	282.0	282.0	02280309023001110 70006	14
0	.0	.0	819.3	750.0	360.0	03290309023003330 80006	14
0	.0	.0	500.0	400.0	300.0	0226030902100111029003	14
0	.0	.0	600.0	400.0	300.0	0330030903100222030003	14
0	.0	.0	600.0	520.0	100.0	0227020805100111033004	14
0	.0	.0	387.6	387.6	75.0	0226030802200222034004	14

R TEAMS

0	.0	.0	550.0	550.0	400.0	02250313012001111 70105	8
0	60.0	.0	900.0	900.0	600.0	03260306043103331 80105	8
0	.0	.0	500.0	500.0	500.0	02260206022001111 90106	8
0	100.0	80.0	1000.0	950.0	150.0	0328030718211333110010	8
0	.0	.0	800.0	800.0	700.0	0229030403200111111010	8
0	100.0	.0	700.0	200.0	100.0	0328030604310333112010	8
0	.0	.0	800.0	700.0	600.0	0226021204101111113011	8
0	100.0	.0	900.0	650.0	500.0	0227021202120222114011	8
0	.0	.0	240.0	240.0	150.0	0226030601100111115011	8
0	80.0	.0	650.0	650.0	650.0	0229021401120222116011	8
0	.0	.0	865.0	795.0	795.0	0226030203100111117011	8
0	100.0	.0	600.0	550.0	250.0	0226030203220333118011	8
0	.0	.0	750.0	700.0	700.0	0229030205100111119011	8

BASES WITH H MODEL AIRCRAFT WITH AOU R TEAMS (Cont'd)

0	1000.0	.0	1000.0	1000.0	800.0	03270301003101111200116	8
0	.0	.0	412.0	412.0	275.0	02310301031001111210117	8
0	.0	.0	1360.0	1360.0	900.0	03270202031003331220117	8
0	.0	.0	276.0	276.0	276.0	02250308073001111230118	8
0	.0	.0	1066.0	1066.0	950.0	03290308053003331240118	8
0	80.0	80.0	440.0	300.0	200.0	03270209021111111250119	8
0	100.0	.0	450.0	450.0	450.0	03300309022202221260119	8
0	50.0	.0	500.0	500.0	500.0	02290301021101111290123	8
0	100.0	.0	750.0	500.0	250.0	03320201062103331300123	8
0	.0	.0	350.0	350.0	250.0	02260318012001111331128	8
0	.0	.0	400.0	400.0	300.0	02260318013002221341128	8
0	.0	.0	360.0	360.0	360.0	02270302032001111350129	8
0	.0	.0	1200.0	1200.0	700.0	03310312043003331360129	8
0	.0	.0	450.0	450.0	320.0	02260313012001111371130	8
0	.0	.0	450.0	450.0	320.0	02270313013002221381130	8
0	.0	.0	550.0	550.0	400.0	02260304021001111390131	8
0	70.0	.0	1100.0	1000.0	600.0	03280304053103331400131	8
0	.0	.0	360.0	360.0	360.0	02250302023001111410132	8
0	200.0	.0	1000.0	600.0	150.0	03290302052103331420132	8
0	.0	.0	297.7	297.7	297.7	02280301022001111 90105	9
0	.0	.0	411.6	411.6	411.6	02300301023003331100105	9
0	.0	.0	156.0	156.0	156.0	01270301013001111110106	9
0	67.0	.0	1010.0	584.0	214.0	03260204073103331120106	9
0	.0	.0	359.4	359.4	359.4	02260318012001111130107	9
0	.0	.0	979.9	720.1	571.9	03280318013003331140107	9
0	.0	.0	392.6	392.6	392.6	02300209012001111150108	9
0	.0	.0	755.2	755.2	505.2	02260309033003331160108	9
0	.0	433.6	433.6	433.6	433.6	02290207012011111170109	9
0	.0	.0	974.3	711.4	648.0	03290307033003331180109	9
0	.0	.0	492.4	492.4	492.4	02250310022001111190110	9
0	.0	.0	946.1	741.9	482.8	03260310013003331200110	9
0	.0	.0	237.9	237.9	237.9	01260301023001111210111	9
0	.0	109.2	137.1	137.1	137.1	04360301103033331220111	9
0	.0	.0	236.5	236.5	236.5	02250306013001111230112	9
0	.0	.0	763.7	763.7	429.2	03290306013003331240112	9
0	.0	.0	215.9	215.9	215.9	02260308033001111250114	9
0	.0	.0	715.0	715.0	321.5	03270208013003331260114	9
0	.0	.0	282.3	282.3	282.3	02300309013001111270115	9
0	85.3	.0	651.2	619.7	415.9	03260309013103331280115	9
0	.0	.0	322.7	322.7	322.7	02270303023001111290116	9
0	.0	.0	360.0	519.2	452.6	02260303032002221300116	9
0	.0	.0	395.1	395.1	395.1	02250210013001111310117	9
0	.0	.0	538.7	538.7	481.5	02280310023002221320117	9
0	.0	.0	282.7	282.7	282.7	02260304013001111330118	9
0	.0	.0	418.5	418.5	418.5	02270304052002221340118	9
0	.0	.0	484.6	484.6	484.6	02260308013003331360119	9
0	.0	.0	509.8	509.8	509.8	02260308013003331360119	9
0	.0	.0	205.3	205.3	205.3	02270304013001111370120	9
0	.0	.0	664.8	664.8	432.7	03290304013003331380120	9
0	.0	.0	507.5	507.5	498.8	03300310013003331390121	9
0	88.2	.0	812.7	708.7	547.5	03280210031203331400121	9
0	.0	.0	251.6	251.6	251.6	02290310013001111410122	9
0	.0	.0	756.2	696.1	496.4	03280310013003331420122	9
0	.0	.0	559.2	559.2	451.8	02260218012001111431123	9
0	.0	.0	509.0	509.0	401.6	02310318013002221441123	9
0	.0	.0	279.9	279.9	279.9	02290302023001111450124	9
0	88.0	.0	788.3	657.5	435.5	03260202042103331460124	9
0	.0	.0	400.0	400.0	150.0	02300301032001110110109	14
0	300.0	.0	900.0	700.0	250.0	03290301083103330120109	14
0	.0	.0	330.0	330.0	100.0	02250310012001110150111	14
0	.0	.0	400.0	350.0	100.0	02280308032002220160111	14

bASES WITH H MODEL AIRCRAFT WITH AOU

R TEAMS (Cont'd)

0	.0	.0	800.0	600.0	200.0	03270203081001110170112	14
0	400.0	.0	850.0	350.0	200.0	03320303083103330180112	14
0	.0	.0	950.0	600.0	130.0	03290201031001110210122	14
0	.0	.0	280.0	280.0	130.0	02250301033002220220122	14
0	.0	.0	260.0	260.0	240.0	02250310013001110231128	14
0	.0	.0	260.0	260.0	240.0	02250310013002220241128	14
0	.0	.0	350.0	350.0	100.0	02270305013001110250130	14
0	80.0	.0	850.0	850.0	100.0	02270306021202220260130	14
0	.0	.0	388.0	388.0	200.0	02290308013001110270134	14
0	100.0	.0	200.0	600.0	300.0	03270308043102220280134	14
0	.0	.0	500.0	500.0	300.0	02260301042001110310141	14
0	100.0	.0	1100.0		500.0	03280201022103 30320141	14
0	.0	.0	170.0	170.0	170.0	02240301013001110350144	14
0	0	.0	900.0	700.0	300.0	03300301043002220360144	14
0	.0	.0	175.0	175.0	175.0	02250304013001110370148	14
0	100.0	.0	900.0	500.0	250.0	03270304043103330380148	14

S TEAMS

0	0	.0	320.0	320.0	320.0	03260103033001111 10201	8
0	0	.0	1450.0	750.0	310.0	03290103041003331 20201	8
0	100.0	.0	700.0	600.0	600.0	02270107041101111 31202	8
0	.0	.0	700.0	700.0	650.0	02280107021003331 41202	8
0	.0	.0	700.0	550.0	490.0	02250102032001111 50203	8
0	0	.0	1200.0	800.0	400.0	03300101063003331 60203	8
0	0	.0	510.0	510.0	443.9	02260109021001111 10201	9
0	1071.1	1846.7	697.3	697.3	600.1	03320109041333331 20201	9
0	.0	.0	687.2	687.2	465.4	02260103041001111 30202	9
0	786.9	1521.4	640.4	903.0	574.4	03360103051333331 40202	9
0	.0	.0	465.0	465.0	442.0	02250118011001111 50203	9
0	77.0	.0	958.3	756.9	595.0	03310118012103331 60203	9
0	.0	.0	571.4	571.4	503.1	02310109012003331 70204	9
0	0	0	1128.1	880.8	566.6	03280109022003331 80204	9
0	200.0	0	1300.0	400.0	300.0	03290104071101110 30202	14
0	1000.0	1500.0	300.0	300.0	300.0	03340104101322330 40202	14
0	60.0	.0	700.0	650.0	250.0	03280102041101110 90208	14
0	100.0	0	1000.0	700.0	150.0	03280102031202220100208	14
0	0	0	160.0	160.0	160.0	02250301013001110130210	14
0	0	0	450.0	450.0	75.0	02260301042002220140210	14
0	.0	0	440.0	440.0	250.0	02270106022001110190220	14
0	350.0	0	1100.0	600.0	300.0	03270108041103330200220	14

POPULATION WITH MODEL G AIRCRAFT WITHOUT AOU

E TEAMS

0	.0	335.0	.0	335.0	235.0	02250208012010110151009	2
0	.0	500.0	.0	500.0	400.0	02270308022020220161009	2
0	0	262.0	.0	262.0	262.0	02260304013010110171010	2
0	.0	317.0	.0	317.0	180.0	02260304023020220181010	2
0	.0	550.0	.0	550.0	540.0	02260303032010110190012	2
0	394.0	909.0	.0	909.0	655.0	03300303043230330200012	2
0	0	213.0	.0	213.0	213.0	02260302013010110211013	2
0	.0	700.0	.0	700.0	600.0	02270302041020220221013	2
0	0	415.0	.0	415.0	360.0	02260308022010110231014	2
0	0	268.0	.0	268.0	200.0	02250308023020220241014	2
0	50.0	765.0	.0	765.0	765.0	03280236011110110271016	2
0	50.0	900.0	.0	900.0	900.0	02260236011220220281016	2
0	.0	527.0	.0	527.0	407.0	02250305032010110290017	2
0	50.0	800.0	.0	800.0	465.0	03290305063120220300017	2
0	0	272.0	0	272.0	152.0	02250305013010110310018	2
0	90.0	1200.0	.0	1200.0	600.0	03280301053130330320018	2
0	0	495.0	.0	495.0	380.0	02260306023030330330022	2
0	0	502.0	0	502.0	342.0	03300207022030330340022	2
0	0	750.0	.0	750.0	700.0	02260201051010110351024	2
0	80.0	250.0	200.0	450.0	250.0	02270301033222220361024	2
1	0	430.0	.0	302.0	300.0	02280305022030331 90005	4

POPULATION WITH MODEL G AIRCRAFT WITHOUT AOU

E TEAMS (Cont'd)

1	.0	1500.0	.0	400.0	200.0	0330020503203033110005	4
1	.0	400.0	.0	400.0	400.0	0228030802201011113000 8	4
1	.0	560.0	.0	560.0	560.0	0226030802202022114000 8	4
1	.0	400.0	.0	200.0	200.0	0329030605201011115000 9	4
1	.0	900.0	.0	650.0	400.0	0331030605303033116000 9	4
1	.0	275.0	.0	275.0	275.0	0226030302201011117001 0	4
1	80.0	650.0	.0	500.0	300.0	0226030302122022118001 0	4
1	.0	650.0	.0	300.0	200.0	0330022401101011119001 2	4
1	.0	675.0	.0	300.0	200.0	0227032401102022120001 2	4
1	.0	170.0	.0	170.0	170.0	0224030001301011123002 1	4
1	60.0	550.0	.0	550.0	250.0	0226030002223033124002 1	4
1	.0	480.0	.0	480.0	450.0	0230021801101011127102 5	4
1	.0	480.0	.0	480.0	450.0	0227031802103033128102 5	4
1	.0	400.0	.0	400.0	250.0	0225030601201011135002 9	4
1	.0	400.0	.0	400.0	250.0	0335030601202022136002 9	4
1	.0	160.0	.0	160.0	160.0	0124030192301011 30002	5
1	100.00	900.0	.0	600.0	300.0	0229030104122022 1 40002	5
1	.0	350.0	.0	200.0	100.0	0231030301301011119001 2	5
1	50.0	900.0	.0	450.0	200.0	0327020204213033120001 2	5
1	0	600.0	.0	425.0	150.0	0330030701101011121001 4	5
1	.0	800.0	.0	200.0	150.0	0329030608213033122001 4	5
1	.0	650.0	.0	650.0	300.0	0327030203201011123001 5	5
1	70.0	1000.0	.0	700.0	400.0	0328020206313033124001 5	5
1	.0	528.0	.0	528.0	100.0	0225030602201011125001 7	5
1	.0	1125.0	.0	700.0	200.0	0329030103303033126001 7	5
1	.0	650.0	.0	300.0	200.0	0226031502101011131002 6	5
1	.0	1600.0	.0	300.0	200.0	0330031507103033132002 6	5
1	.0	149.7	.0	149.7	149.7	0227030101301011 0 90006	11
1	120.0	794.6	.0	794.6	794.6	0328030105213033010000 6	11
1	.0	220.9	.0	220.4	100.0	0229030201301011021001 2	11
1	.0	543.7	.0	463.7	463.7	0227030202202022022001 2	11
1	.0	427.6	.0	427.6	307.6	0225030302201011025001 6	11
1	.0	803.0	.0	733.0	733.0	0227020302102022026001 6	11
1	.0	580.0	.0	175.0	40.0	0226022102101011 0 51021	13
1	.0	590.0	.0	175.0	60.0	0330022102102022 0 61021	13
1	.0	360.0	.0	360.0	52.0	0225030102301011 0 90060	13
1	.0	2000.0	.0	400.0	50.0	0330030102203033010006 0	13
1	.0	800.0	.0	400.0	160.0	0228020202101011015005 9	13
1	90.0	1000.0	.0	300.0	160.0	0327030201313033016005 9	13

R TEAMS

0	120.0	623.0	.0	558.0	422.0	0331022401111011013010 8	2
0	60.0	580.0	.0	580.0	402.0	0335032402102022014010 8	2
0	.0	293.0	.0	293.0	173.0	0226030102301011025111 5	2
0	.0	200.0	300.0	500.0	200.0	0328020107103233026111 5	2
1	.0	900.0	.0	400.0	200.0	0226320902101011 1 70104	4
1	.0	450.0	.0	450.0	200.0	0226030902102022 1 80104	4
1	.0	200.0	.0	200.0	200.0	0225030801301011111010 6	4
1	71.8	970.0	.0	400.0	200.0	0329030806313033112010 6	4
1	56.0	500.0	.0	300.0	200.0	0325020902111011121011 9	4
1	100.0	700.0	.0	650.0	300.0	0329031203122022122011 9	4
1	.0	520.0	.0	500.0	325.0	0226020402131333129012 6	4
1	.0	481.0	.0	481.0	310.0	0328030403202022130012 6	4
1	.0	500.0	.0	350.0	350.0	0225030202301011131012 7	4
1	.0	900.0	.0	600.0	500.0	0328030206203033132012 7	4
1	.0	300.0	.0	300.0	300.0	0226030103201011133012 8	4
1	125.0	1400.0	.0	700.0	400.0	0329030108313033134012 8	4
1	.0	460.0	.0	460.0	250.0	0226030002201011 1 10101	5
1	.0	500.0	.0	500.0	240.0	0225030004303033 1 20101	5
1	.0	650.0	.0	400.0	125.0	0227020203101011113010 6	5
1	.0	620.0	.0	400.0	125.0	0327030202302022114010 6	5
1	.0	600.0	56.0	380.0	195.0	0327020004101111135010 9	5

POPULATION WITH MODEL G AIRCRAFT WITHOUT AOU R TEAMS (Cont'd)

1	200.0	800.0	.0	400.0	300.0	0329030001313033136 0109	5
1	.0	140.0	.0	140.0	140.0	01270300013010111 50110	5
1	.0	500.0	.0	500.0	250.0	03300303032020221 60110	5
1	.0	500.0	.0	400.0	100.0	0326030302101011115 0111	5
1	.0	680.0	.0	480.0	300.0	0331020307203033116 0111	5
1	.0	580.0	.0	580.0	360.0	0228030103101011117 0116	5
1	75.3	511.6	.0	390.8	215.2	0226030104322022118 0116	5
1	.0	250.0	.0	250.0	250.0	0226030201301011127 0118	5
1	.0	364.0	.0	340.0	340.0	0330030203302022128 0118	5
1	.0	250.0	.0	250.0	250.0	0326030301301011129 1122	5
1	.0	250.0	.0	250.0	250.0	0328030301302022130 1122	5
1	.0	375.0	.0	375.0	250.0	0230036201201011133 0127	5
1	.0	650.0	.0	450.0	250.0	0230030702302022134 0127	5
1	.0	600.0	.0	600.0	540.0	0327021204101011 70104	7
1	60.0	1120.0	.0	750.0	700.0	0329021205113033 1 80104	7
1	.0	650.0	.0	600.0	540.0	0228021204101011 90105	7
1	.0	750.0	0	700.0	630.0	0331031204102022110 0105	7
1	.0	630.0	.0	600.0	540.0	0227030002301011111 0109	7
1	0	760.0	0	700.0	630.0	0327030004303033112 0109	7
1	0	560.0	0	530.0	400.0	0328030002301011113 0110	7
1	0	500.0	.0	450.0	400.0	0326030002202022114 0110	7
1	0	850.0	0	850.0	800.0	0330030204201011117 0113	7
1	0	150.0	0	150.0	140.0	0226030101302022118 0113	7
1	0	350.0	0	350.0	310.0	0225030201301011119 0114	7
1	30.0	600.0	0	520.0	500.0	0228030203213033120 0114	7
1	0	530.0	0	500.0	450.0	0228030202201011121 0118	7
1	0	1170.0	0	750.0	680.0	0328030201303033122 0118	7
1	0	550.0	.0	530.0	480.0	0226031601201011123 0119	7
1	.0	600.0	0	530.0	480.0	0328031601202022124 0119	7
1	.0	440.0	0	420.0	380.0	0227031201201011125 0122	7
1	0	450.0	0	420.0	380.0	0329031201202022126 0122	7
1	0	160.0	0	160.0	140.0	0223030001301011127 0123	7
1	0	780.0	0	750.0	680.0	0327030005303033128 0123	7
1	0	365.0	.0	365.0	250.0	0227031501201011129 0124	7
1	350.0	1080.0	0	700.0	585.0	0330031503313033130 0124	7
1	30.0	1030.0	0	750.0	680.0	0326030005111011131 0125	7
1	0	400.0	0	400.0	360.0	0225030003301011132 0125	7
1	.0	331.9	0	330.0	270.0	0226031101301011133 0126	7
1	0	1020.0	0	800.0	700.0	0327031103303033134 0126	7
1	0	190.0	0	190.0	170.0	0126030201301011135 0127	7
1	110.0	540.0	0	600.0	540.0	0328030202313033136 0127	7
1	.0	198.7	0	198.7	198.7	0226030201301011 0 70104	11
1	.0	352.4	.0	352.4	283.0	0329030202202022 0 80104	11
1	.0	395.5	.0	395.5	295.5	0225030702201011011 0111	11
1	100.0	747.1	0	600.0	600.0	0328020704313033012 0111	11
1	0	593.0	.0	520.0	520.0	0230032301101011017 1109	11
1	.0	605.0	.0	535.0	535.0	0225032301102022018 1109	11
1	0	195.3	.0	195.3	195.3	0229030201301011013 0107	11
1	.0	719.1	.0	630.0	630.0	0328030203303033014 0107	11
1	0	523.0	.0	450.0	450.0	0229030303203033015 0108	11
1	0	660.0	.0	590.0	590.0	0226020302102022016 0108	11
1	0	255.0	.0	255.0	135.0	0229030301201011019 0110	11
1	.0	308.9	.0	308.9	188.9	0333030302302022020 0110	11
1	110.0	665.0	.0	665.0	600.0	0226020802122022116 0111	7
1	0	450.0	.0	400.0	380.0	0228030802201011115 0111	7
1	.0	356.9	0	356.9	226.0	0226030601201011023 0115	11
1	0	300.1	0	300.1	169.4	0229030601302022024 0115	11
1	0	516.9	0	436.0	436.0	0229020202101011027 0118	11
1	0	821.6	0	740.0	740.0	0328030204303033028 0118	11
1	0	326.4	0	326.4	200.0	0227031501201011029 1119	11
1	0	292.3	0	292.3	200.0	0228031501302022030 1119	11
1	0	505.0	0	435.0	435.0	0227030204101011031 0120	11

POPULATION WITH MODEL G AIRCRAFT WITHOUT AOU
R TEAMS (Cont'd)

1	.0	893.8	.0	813.0	813.0	0327030204303033032012O	11
1	.0	200.0	475.0	395.0	395.0	0228020404100111033012 2	11
1	.0	325.3	.0	325.3	325.3	0333030402302022034012 2	11
1	108.0	500.0	100.0	450.0	400.0	0227032504111111035012 4	11
1	.0	800.0	.0	600.0	600.0	0327030107303033036012 4	11
1	100.0	711.0	.0	540.0	540.0	0227020302113033037012 7	11
1	.0	432.0	.0	350.0	350.0	0329030302202022038012 7	11
1	.0	200.0	.0	200.0	200.0	0226030101301011019010 4	13
1	300.0	1100.0	.0	250.0	250.0	0330030501313033020010 4	13
1	.0	400.0	.0	325.0	35.0	0227030901101011 30110	13
1	100.0	1700.0	.0	250.0	40.0	0329030904213033 40110	13
1	.0	520.0	.0	500.0	80.0	0228021301201011013112O	13
1	.0	438.1	67.3	367.6	73.0	0227030102202222014112O	13
1	.0	460.0	.0	180.0	180.0	0227030101201011021011 5	13
1	.0	1800.0	.0	250.0	50.0	0329030102303033022011 5	13
1	.0	300.0	.0	210.0	200.0	0226030201301011023010 5	13
1	100.0	1900.0	.0	300.0	100.0	0332031004313033024010 5	13
1	50.0	420.0	.0	200.0	20.0	0328030103311011011010 7	13
1	70.0	730.0	.0	300.0	30.0	0327020103222022012010 7	13
1	.0	300.0	.0	300.0	40.0	0227030301301011025011 2	13
1	50.0	1100.0	.0	300.0	170.0	0329030201313033026011 2	13
1	75.0	400.0	.0	300.0	50.0	0226030102221011027010 9	13
1	150.0	850.0	.0	500.0	200.0	0328030101313033028010 9	13
1	.0	800.0	.0	400.0	40.0	0228020101101011029015 5	13
1	.0	1200.0	.0	200.0	40.0	0327030102303033030015 5	13
1	.0	340.0	.0	280.0	150.0	0227030803101011031015 4	13
1	.0	550.0	.0	500.0	100.0	0331030804802022032015 4	13
1	.0	450.0	.0	430.0	50.0	0225030601301011033011 9	13
1	50.0	600.0	.0	200.0	50.0	0227030606122022034011 9	13
1	.0	300.0	.0	270.0	40.0	0225030601201011041015 7	13
1	120.0	300.0	700.0	800.0	40.0	0326030602212122042015 7	13
1	.0	450.0	.0	200.0	60.0	0227020802101011043011 6	13
1	.0	500.0	.0	450.0	60.0	0226030802102022044011 6	13
1	.0	410.0	.0	350.0	20.0	0226030802301011045011 8	13
1	.0	350.0	.0	330.0	20.0	0330030801302022046011 8	13
1	.0	480.0	.0	180.0	20.0	0226021301201011047010 8	13
1	.0	450.0	.0	300.0	30.0	0336021302102022048010 8	13
1	.0	400.0	.0	300.0	50.0	0226030203201011049011 4	13
1	.0	1100.0	.0	250.0	120.0	0329030201303033050011 4	13
1	.0	200.0	.0	200.0	200.0	0225030201301011017015 8	13
1	.0	1900.0	.0	400.0	50.0	0329030202302022018015 8	13

S TEAMS

0	520.0	200.0	580.0	450.0	200.0	0329020110332333010020 5	2
0	22.0	840.0	.0	840.0	820.0	0329030104201011 90205	2
0	.0	876.0	.0	876.0	795.0	0328011504103033 10201	2
0	.0	1217.0	.0	1217.0	683.0	0328011507103033 20201	2
0	100.0	900.0	.0	900.0	400.0	0329013302120333 40202	2
0	57.0	586.0	0	586.0	406.0	0327013302113033 30202	2
0	.0	700.0	100.0	800.0	700.0	0229010607101111 0 50203	2
0	.0	800.0	0	800.0	800.0	0226010603103033 0 61203	2
0	22.0	771.0	0	771.0	571.0	0330021304111011 0 71204	2
0	22.0	497.0	0	497.0	497.0	0229031301202022 0 81204	2
0	0	591.0	0	491.0	591.0	0226030303201011011020 7	2
0	0	1427.0	0	1337.0	555.0	0329030305203033012020 7	2
1	0	900.0	0	400.0	300.0	0230012002101011 30202	4
1	0	2500.0	0	400.0	300.0	0329112006103033 1 40202	4
1	80.0	800.0	0	500.0	400.0	0327010204111011 1 70201	5
1	.0	1300.0	0	800.0	700.0	0330010309203033 1 80201	5
1	0	890.0	0	250.0	180.0	0227010401101011 1 90202	5
1	70.0	830.0	0	240.0	175.0	0328010403122022110020 2	5
1	.0	595.0	0	450.0	150.0	0227010604101011111120 3	5

POPULATION WITH MODEL G AIRCRAFT WITHOUT AOU S TEAMS (Cont'd)

1	.0	564.0	.0	450.0	150.0	0229010604103033112120 3	5
1	.0	600.0	.0	550.0	500.0	0226010304101011 10201	7
1	.0	1900.0	.0	800.0	720.0	03300103071030331 20201	7
1	.0	630.0	.0	630.0	560.0	02280101031010111 30202	7
1	70.0	860.0	.0	750.0	700.0	03270101053130331 40202	7
1	.0	360.0	.0	360.0	320.0	02280101023010111 50203	7
1	130.0	920.0	.0	750.0	700.0	03270101052130331 60203	7
1	.0	807.7	.0	637.0	637.0	02270108061030330 10201	11
1	100.0	782.0	.0	712.0	712.0	03290108053130330 20201	11
1	.0	519.0	.0	439.7	439.7	03270102031010110 30203	11
1	.0	501.0	.0	420.0	420.0	02260101021020220 40203	11
1	.0	524.7	.0	444.7	444.7	02270102021010110 50202	11
1	.0	1346.0	.0	820.0	820.0	03280108102030330 60202	11
1	100.0	850.0	.0	300.0	150.0	03260101031110110 10201	13
1	210.0	1000.0	.0	300.0	150.0	03290101032130330 20201	13
1	100.0	700.0	.0	150.0	35.0	03290107021110110 70202	13
1	300.0	800.0	1000.0	400.0	60.0	03320107051323330 80202	13
1	.0	900.0	.0	300.0	60.0	02260101041010110350203	13
1	.0	2300.0	.0	300.0	20.0	03300101021030330360203	13
1	.0	438.0	.0	438.0	30.0	02290101021010110370251	13
1	250.0	2000.0	.0	800.0	400.0	03310101091330330380251	13
1	.0	700.0	.0	300.0	100.0	02260100041010110390253	13
1	80.0	820.0	.0	300.0	100.0	03280100031220220400253	13

BASES WITH G MODEL AIRCRAFT WITH AOU E TEAMS

0	.0	190.0	.0	190.0	190.0	02290301013010110110005	1
0	.0	1970.0	.0	700.0	300.0	0328020707103033012 0005	1
0	.0	308.2	.0	308.2	156.7	02250304013010110170008	1
0	.0	661.3	.0	586.7	548.2	03280304021020220180008	1
0	.0	500.0	.0	450.0	435.0	02250303051010110210010	1
0	200.0	1100.0	.0	800.0	304.0	03270304021130330220010	1
0	.0	690.0	.0	690.0	400.0	03270212021010110310016	1
0	.0	1800.0	.0	900.0	400.0	033003' '061030330320016	1
0	.0	520.0	.0	100.0	200.0	02260202051010111 90006	3
0	2235.0	430.0	0	200.0	240.0	03350302083330331100006	3
0	.0	390.0	.0	240.0	150.0	02270302013010111110007	3
0	.0	390.0	.0	300.0	257.0	03260302032020221120007	3
0	.0	420.0	.0	420.0	275.0	02270313022010111130009	3
0	50.0	1200.0	.0	400.0	300.0	03290313043030331140009	3
0	.0	550.0	.0	300.0	300.0	03270310031010111170011	3
0	.0	320.0	.0	280.0	180.0	04350308013020221180011	3
0	.0	540.0	.0	530.0	320.0	02260308013010111250018	3
0	3700.0	1100.0	.0	360.0	360.0	04340308101320331260018	3
0	.0	227.0	.0	227.0	227.0	01240301013010111290020	3
0	.0	750.0	.0	750.0	650.0	03280301043020221300020	3
0	.0	250.0	.0	250.0	200.0	02290303022010111310021	3
0	200.0	800.0	.0	350.0	400.0	03300302043130331320021	3
0	.0	400.0	.0	350.0	350.0	02270305022010111330023	3
0	85.0	900.0	.0	350.0	350.0	03270301073130331340023	3
0	0	250.0	.0	60.0	150.0	03290302023010111350024	3
0	90.0	1000.0	.0	200.0	200.0	03290302053130331360024	3
0	.0	480.3	.0	336.3	96.6	02250305013020220 60004	10
0	.0	481.1	.0	486.1	100.7	02260305041010110 50004	10
0	.0	181.9	.0	159.9	84.5	02270305013010110 90006	10
0	4.1	1457.3	.0	518.1	88.2	03290305061220220100006	10
0	.0	165.9	.0	135.4	105.1	02300306012010110110007	10
0	0	497.5	.0	481.8	69.2	02270306021020220120007	10
0	0	566.5	.0	555.5	116.4	02260314031010110130008	10
0	169.5	1682.6	1175.8	460.2	107.7	03340214101323330140008	10
0	.0	426.5	.0	285.7	109.5	02250305013010110170010	10

BASES WITH G MODEL AIRCRAFT WITH AOU

E TEAMS (Cont'd)

0	3.1	782.0	.0	587.3	138.7	03280305033130330180010	10
0	23.6	603.4	.0	800.1	122.7	02270314031110110190011	10
0	46.9	527.9	.0	560.1	113.0	03270214021220220200011	10
0	3.0	500.0	3.0	350.8	124.8	02250304051010110210012	10
0	94.1	813.3	.0	643.6	242.3	03270304103130330220012	10
0	38.3	654.7	.0	529.8	110.5	03280312041110110270015	10
0	107.9	537.8	.0	622.8	108.7	02270312021220220280015	10
0	.0	479.6	.0	351.8	104.6	02260313021010110291016	10
0	.0	520.9	.0	384.4	111.2	02250313032010110301016	10
0	.0	277.7	.0	134.5	134.5	02260303013011110310017	10
0	73.2	572.4	.0	556.8	155.5	03280303041220220320017	10
0	.0	362.2	.0	354.6	106.1	02270302043010110330019	10
0	34.4	813.8	.0	709.7	156.2	03270302013130330340019	10

R TEAMS

0	.0	700.0	.0	600.0	500.0	03260202031010110230111	1
0	.0	850.0	.0	700.0	500.0	03270302013030330240111	1
0	.0	350.0	.0	350.0	190.0	02260303011010110250112	1
0	60.0	600.0	.0	500.0	350.0	03310203031220220260112	1
0	.0	400.0	.0	400.0	200.0	02260303013010110270113	1
0	100.0	550.0	.0	550.0	500.0	02270303041220220280113	1
0	.0	300.0	.0	300.0	300.0	02270304013010110290115	1
0	.0	700.0	.0	700.0	600.0	03280306012020220300115	1
0	.0	750.0	.0	750.0	400.0	03270201031010110330117	1
0	.0	520.0	.0	520.0	390.0	02260301033020220340117	1
0	.0	875.0	.0	875.0	575.0	02260308032010110 10114	1
0	.0	350.0	.0	350.0	200.0	02290306013020220 20114	1
0	200.0	900.0	.0	1000.0	300.0	02280302031110110 90104	1
0	180.0	200.0	1500.0	350.0	200.0	03290202021322330100104	1
0	.0	520.0	.0	520.0	390.0	02260309042010110130106	1
0	200.0	300.0	1000.0	710.0	300.0	03300209101323330140106	1
0	.0	650.0	.0	650.0	650.0	03270305032010110151107	1
0	100.0	1100.0	.0	800.0	400.0	03280305013130330161107	1
0	.0	350.0	.0	350.0	200.0	02260303022010110190109	1
0	30.0	650.0	.0	600.0	200.0	03280303022220220200109	1
0	.0	500.0	.0	300.0	200.0	02260306031010111 70105	3
0	.0	370.0	.0	370.0	270.0	02250306013020221 80105	3
0	.0	430.0	.0	200.0	100.0	02300304013010111150110	3
0	.0	500.0	.0	250.0	250.0	03300304022020221160110	3
0	.0	315.0	.0	250.0	250.0	02280301033010111190112	3
0	.0	200.0	.0	200.0	200.0	02290301013020221200112	3
0	.0	250.0	.0	250.0	250.0	02260301013010111210114	3
0	90.0	900.0	.0	300.0	150.0	03270301043130331220114	3
0	.0	170.0	.0	170.0	170.0	02250301013010111230115	3
0	.0	700.0	.0	220.0	220.0	03300301043030331240115	3
0	54.0	450.0	.0	400.0	300.0	02240321012110111271119	3
0	50.0	450.0	.0	400.0	300.0	02250321012220221281119	3
0	.0	400.0	.0	400.0	200.0	02250210011010111370125	3
0	120.0	570.0	.0	300.0	300.0	02290210021220221380125	3
0	92.1	477.0	.0	503.2	129.2	02270217031110110 70105	10
0	88.5	372.6	.0	472.7	113.0	02270317031220220 80105	10
0	94.1	612.3	.0	598.5	149.3	03300305051110110150109	10
0	.0	252.2	.0	214.6	118.4	02310305013020220160109	10
0	.0	392.1	.0	362.9	104.5	02260202051010110230113	10
0	.0	361.9	.0	204.9	88.9	02290302033020220240113	10
0	48.5	571.4	.0	505.8	96.5	03270302031110110250114	10
0	101.6	717.7	.0	575.5	181.7	03260302013130330260114	10

S TEAMS

0	.0	520.0	.0	410.0	300.0	03270103041010110 30201	1
0	.0	1800.0	.0	1100.0	400.0	03280103071030330 40201	1
0	.0	670.0	.0	630.0	450.0	03270103021010110 51202	1
0	60.0	650.0	.0	620.0	450.0	02270103041220220 61202	1
0	.0	750.0	.0	750.0	400.0	03270112021010110 70203	1

BASES WITH G MODEL AIRCRAFT WITH AOU S TEAMS (Cont'd)

0	.0	1600.0	.0	1200.0	400.0	03280112041030330 80203	1
0	.0	660.0	.0	660.0	400.0	022503070220101103502 18	1
0	150.0	1150.0	.0	500.0	400.0	032803070311303303602 18	1
0	60.0	615.0	.0	600.0	500.0	02250104022110111 10201	3
0	3800.0	500.0	.0	400.0	400.0	03340101151330331 20201	3
0	100.0	600.0	.0	300.0	300.0	02270108041110111 30202	3
0	500.0	1000.0	400.0	250.0	250.0	03290101041321331 40202	3
0	.0	600.0	.0	350.0	350.0	02260104041010111 50203	3
0	.0	950.0	.0	250.0	250.0	03280101042030331 60203	3
0	60.1	676.5	.0	623.2	123.4	03290104031110110 10202	10
0	.0	1094.0	.0	772.4	134.1	03280104022030330 20202	10
0	.0	780.4	.0	531.0	135.7	03280108061010110 30203	10
0	46.9	1708.6	.0	670.0	172.4	03280108061230330 40203	10

APPENDIX B

HISLOG – HISTOGRAM PLOTTING: FORTRAN SOURCE CODE

```
//HISLOG Job (SRL, 001), M. Hoffman, MSGLevel=1, Class=D
//EXEC FORTGCLG, REGION. GO=240K
//FORT. SYSIN DD*
      Dimension Title(36,50),NINT(50),FMT(36),V(600),SINT(600),TI(36)
      Dimension X(600,50),XX(50,50),XR(60,50),XS(50, 50)
C     This statement reads the following (1) IP Options in the subroutine
C     (2) NV=The number of variables to be plotted,
C     (3) NVP=The number of cards to be read
C     and (4) the INT=The number of point on the Y axis
C     on the Histograms.
C
      READ (5,90,END=500) IP, NV, NVP, (NINT(L),L=1,NV)
C
C     This statement reads the BMD type format statement
   90 Format(2I2,I3,36I2)
C
      Read(5,91)FMT
   91 Format(18A4/18A4)
C
C       These statements write the title of the data being graphed
C
C
C     This card reads the title cards. One per graph. These must be in
C     the order of the variable per graph to be plotted.
      Read(5,92)((Title(L,J),L=1,18),J=1,NV)
   92 Format(18A4)
      M=NV-14
C
C     This card reads the data. The data must be in the BMD type
C     two dimensional array with one column per variable.

      Read(5,FMT) ((X(L,J),J=1,M),L=1,NVP)
      Write(6,34)
   34 Format(1H1,3X,'VAR 1',7X,'VAR 2',7X,'VAR 3',7X,'VAR 4',7X,'VAR 5',
     17X,'VAR 6',6X,'VAR 7',6X,'VAR 9',6X,'VAR 10')
      Write(6,35)((X(L,J),J=1,9),L=1,NVP)
   35 Format (/9(F10.3,2X))
      Write (6,36)
   36 Format(1H1,3X,'VAR 23',6X,'VAR 24',6X,'VAR 25',6X,'VAR 26',6X,
     1'VAR 27',7X,'VAR 28',7X,'VAR 29',7X,'VAR 31',7X,'VAR 32')
      Write(6,37)((X(L,J),J=10,18),L=1,NVP)
   37 Format(/9(F10.3,2X))
      D0 25 J=1,NVP
      X(J,19)=X(J,2)+X(J,3)
      X(J,20)=X(J,19)+X(J,1)
      X(J,21)=X(J,11)+X(J,12)
      X(J,22)=X(J,21)+X(J,10)
      X(J,23)= (X(J,1)+X(J,10))/2.
      X(J,24)= (X(J,2)+X(J,11))/2.
      X(J,25)= (X(J,3)+X(J,12))/2.
      X(J,26)= (X(J,4)+X(J,13))/2.
      X(J,27)= (X(J,5)+X(J,14))/2.
      X(J,28)= (X(J,6)+X(J,15))/2.
      X(J,29)= (X(J,7)+X(J,16))/2.
      X(J,30)= (X(J,8)+X(J,17))/2.
      X(J,31)= (XJ,19)+X(J,21))/2.
      X(J,32)= (X(J,20)+X(J,22))/2.
```

```
//HISLOG Job (SRL, 001), M. Hoffman, MSGLevel=1, Class=D
//EXEC FORTGCLG, REGION. GO=240K
//FORT. SYSIN DD*
```

```
   25  Continue
       Write(6,38)
   38  Format(1H1,2X,'VAR 45',7X,'VAR 46',6X,'VAR 47',6X,'VAR 48',6X,
      1'VAR 49',6X,'VAR 50',6X,'Var 51',6X,'VAR 52',6X,'VAR 53',6X,
      2'VAR 54')
       Write (6,39)((X(J,L),L=19,28),J=1,NVP)
   39  Format(/10(F10.3,2X))
       Write(6,40)
   40  Format (1H1,2X,'VAR 55',6X,'VAR 57',6X,'VAR 63',6X,'VAR 64')
       Write(6,41)((X(J,L),L=29,32),J=1,NVP)
   41  Format(/4(F10.3,2X))
       Do 100 K=1,NV
       Do 50 J=1,NVP
   50  V(J)=X(J,K)
       Do 75 J=1,18
   75  TI(J)=Title (J,K)
  100  Call HISTOG(V,NVP,NINT,VMU,SIGMA,SKEW,VMIN,VMAX,IP,SINT,TI,TN)
  500  Stop
       End
C      HISTOG draws a histogram for the data V(I),I=1,NV, which is                HISTOG
C      passed from the calling program. In addition it computes the               HISTOG
C      mean=VMU, the standard deviation=SIGMA, a coefficient of skewness          HISTOG
C      skew=(EXPV3-3.0*VMU*EXPV2+2.0*VMU**3)/(SIGMA**3) and the value             HISTOG
C      of the smallest observation =VMIN and the value of the largest             HISTOG
C      observation =VMAX. These values are printed above the histogram.           HISTOG
C                                                                                 HISTOG
C      Specification of control parameters.                                       HISTOG
C      -----------------------------------                                        HISTOG
C      V(I)        ---   The observations V(I) are defined or read in            HISTOG
C                        by the calling program.                                  HISTOG
C      NV          ---   NV is the number of observations. NV is de-             HISTOG
C                        fined in the calling program.                            HISTOG
C      NINT        ---   NINT specifies to the subroutine the number of          HISTOG
C                        intervals (number of class intervals may not             HISTOG
C                        exceed 200, otherwise an errormessage is printed         HISTOG
C                        and control is returned to the main program).            HISTOG
C      SINT(I)     ---   An interval size array SINT(I) must be                   HISTOG
C                        specified in the main program with a                     HISTOG
C                        dimension statement.                                     HISTOG
C      Option 1    ---   With IP=1, the histogram is drawn for the                HISTOG
C                        number of class intervals specified by NINT.             HISTOG
C      Option 2    ---   With IP=2, the Subroutine Sets the Interval Size         HISTOG
C                        SINT=1.0 and the Number of Intervals to                  HISTOG
                         NINT=VMAX-VMIN+1.0 (This Option is for Discrete          HISTOG
C                        Distributions).                                          HISTOG
C      Options 3,4 -     If IP=3 or IP=4, the Histogram will be Drawn             HISTOG
C                        Only for Those V(I) Satisfying                           HISTOG
C                        VMIN .LE. V(I) .LE. VMAX.                                HISTOG
C                        With IP=3 or IP=4 Specifying Whether VMU, SIGMA          HISTOG
C                        and SKEW are to be Calculated for All the V(I)           HISTOG
C                        or for the Reduced Set of V(I) Respectively.             HISTOG
C      Option 5    ---   If IP=5, a Class Interval Array SINT(I) and the          HISTOG
C                        Size of Each Class Interval Must be Specified            HISTOG
C                        in the Main Program by a Dimension- and a Data-          HISTOG
C                        Initialization-Statement Respectively.                   HISTOG
C      VMIN,VMAX-        For Options 3, 4 and 5 VMIN and VMAX Indicate            HISTOG
C                        Upper and Lower Bounds for a Reduced                     HISTOG
C                        Set of Observations.                                     HISTOG
C      Frequencies -     If the Frequency Within Any Interval Exceeds             HISTOG
```

```
//HISLOG Job (SRL, 001), M. Hoffman, MSGLevel=1, Class=D
//EXEC FORTGCLG, REGION. GO=240K
//FORT. SYSIN DD*
C                    100, Then the Frequencies are Scaled Using the                    HISTOG
C                    Scaling Factor JSCAL=(NFMAX+99)/100.The                           HISTOG
C                    Value of the Scaling Factor JSCAL is Printed                      HISTOG
C                    Beneath the Histogram.                                            HISTOG
C                                                                                      HISTOG
C                                                                                      HISTOG
C                                                                                      HISTOG
C                                                                                      HISTOG
      Subroutine Histog (V, NV, NINT, VMU, SIGMA, SKEW, VMIN, VMAX, IP, SINT, IT,
     1TN)
      Dimension V(1),CHIS(101), ALOBD1(200),ALOBD2(201),NF(200),NN(200)                HISTOG
      Dimension SINT(1)                                                                HISTOG
      Dimension TI (18), TN(18)
    1 Format (A1)                                                                      HISTOG
    2 Format (1H1,18A4)
    3 Format (18H----------)                                                           HISTOG
   40 Format(5HOVMU =,F12.5,5X,6HSIGMA =,F12.5,5X,5HSKEW =,F12.5,5X,                   HISTOG
     15HVMIN= ,F12.5,5X,5HVMAX= ,F12.5,5X,3HNV= ,I6,)                                  HISTOG
   50 Format (132H ----------HISTOG
     1 ----------HISTOG
     2 ----------HISTOG
   60 Format (132H     Range                          Freq.1 . . . 5 . . . 10 . . . 15 . . . 20.HISTOG
     1 .25 ... 30 ... 35 ... 40 ... 45 ... 50 ... 55 ... 60 ... 65 ... 70 ... 75 ... 80 ... 85 ...HISTOG
     2 90 . . 95 . . . 100)                                                           HISTOG
    7 Format (1H,I3,1X, F10.4, 1H, F10.4,1X,I4,1X,100A1)                             HISTOG
    8 Format (22H     Scaling Factor =,I2)                                           HISTOG
    9 Format (1H1,The Value Spec. or Calc. for NINT Exceeds 200.')                   HISTOG
      Data ASTRIK/ '*'/,ABLANK/' '/                                                  HISTOG
C                                                                                    HISTOG
C     Calculate VMU, SIGMA, SKEW, VMIN and VMAX.                                     HISTOG
C                                                                                    HISTOG
      NVT=NV                                                                         HISTOG
      Go to (60,60, 59, 59, 59),IP                                                   HISTOG
   59 ALBD=VMIN                                                                      HISTOG
      UPBD,=VMAX                                                                     HISTOG
      Go To(60, 60, 60, 62,62),IP                                                    HISTOG
   60 VN=NV                                                                          HISTOG
      VMU=0.0                                                                        HISTOG
      EXPV2=0.0                                                                      HISTOG
      EXPV3=0.0                                                                      HISTOG
      VMIN=1.0E75                                                                    HISTOG
      VMAX=-1.0E75                                                                   HISTOG
      Do 15 I=1,NV                                                                   HISTOG
      VMU=VMU+V(I)/VN                                                                HISTOG
      EXPV2=EXPV2+V(I)*V(I)/VN                                                       HISTOG
      EXPV3=EXPV3+V(I)*V(I)*V(I)/VN                                                  HISTOG
      IF(V(I)-VMIN)12,13,13                                                          HISTOG
   12 VMIN=V(I)                                                                      HISTOG
   13 IF(V(I)-VMAX)15,15,14                                                          HISTOG
   14 VMAX=V(I)                                                                      HISTOG
   15 Continue                                                                       HISTOG
      SIGMA=SQRT(EXPV2-VMU*VMU)                                                      HISTOG
      SKEW=(EXPV3-3.0*VMU*EXPV2+2.0*VMU**3)/(SIGMA**3)                               HISTOG
      Write (6,2) TI
      Write (6,3)                                                                    HISTOG
      Write (6,4) VMU, SIGMA,SKEW,VMIN,VMAX,NV
   61 Go to (40,42,62,40,47),IP                                                      HISTOG
   62 I1=0                                                                           HISTOG
      Do 65 I=1,NV                                                                   HISTOG
      If (V(I)-ALBD)65,64,63                                                         HISTOG
```

```
//HISLOG Job (SRL, 001), M. Hoffman, MSGLevel=1, Class=D
//EXEC FORTGCLG, REGION. GO=240K
//FORT. SYSIN DD*
   63     If(V(I) - UPBD)64,64,65                                    HISTOG
   64     I1 = I1 + 1                                                HISTOG
          V(I1) = V(I)                                               HISTOG
   65     Continue                                                   HISTOG
          NV = I1                                                    HISTOG
          VMIN = ALBD                                                HISTOG
          VMAX = UPBD                                                HISTOG
          Go to (40,42,40,60,60),IP                                  HISTOG
C                                                                    HISTOG
C         Calculate Interval Size.                                   HISTOG
C                                                                    HISTOG
   47     VMIN = ALBD                                                HISTOG
          VMAX = UPBD                                                HISTOG
          Go to 43                                                   HISTOG
   40     ANINT = NINT                                               HISTOG
          Do 48  I = 1,NINT                                          HISTOG
   48     SINT(I) = (VMAX - VMIN) ANINT                              HISTOG
          Go to 43                                                   HISTOG
   42     ANINT = VMAX  VMIN + 1.0                                   HISTOG
          NINT = ANINT                                               HISTOG
          Do 49 I = 1,NINT                                           HISTOG
   49     SINT(I) = 1.0                                              HISTOG
          VMIN = VMIN  0.5                                           HISTOG
          VMAX = VMAX + 0.5                                          HISTOG
C                                                                    HISTOG
C         Calculate Ranges and Frequencies and Draw Histogram.       HISTOG
C                                                                    HISTOG
   43     Write(6,5)                                                 HISTOG
          Write(6,6)                                                 HISTOG
          Write(6,5)                                                 HISTOG
          ALOBD2(1)  VMIN                                            HISTOG
          NV1 = NV                                                   HISTOG
          If(NINT  200)45,45,44                                      HISTOG
   44     Write(6,9)                                                 HISTOG
          Go To 46                                                   HISTOG
   45     Do 23 I = 1,NINT                                           HISTOG
          ALOBD1(I)  ALOBD2(I)                                       HISTOG
          ALOBD2(I + 1)  ALOBD1(I) + SINT(I)                         HISTOG
          L = 0                                                      HISTOG
          NF(I) = 0                                                  HISTOG
          If(NV1)22,23,22                                            HISTOG
   22     Do 20 J = 1,NV1                                            HISTOG
          If(NINT  I)16,19,16                                        HISTOG
   16     If(V(J)  ALOBD2(I + 1))18, 18,17                           HISTOG
   17     L = L + 1                                                  HISTOG
          V(L) = V(J)                                                HISTOG
          Go to 20                                                   HISTOG
   18     NF(I) = NF(I) + 1                                          HISTOG
          Go to 20                                                   HISTOG
   19     NF(I) = NV1                                                HISTOG
          ALOBD2(I + 1)  VMAX                                        HISTOG
          Go To 24                                                   HISTOG
   20     Continue                                                   HISTOG
          NV1  L                                                     HISTOG
   23     Continue                                                   HISTOG
C                                                                    HISTOG
C         Scale Frequencies if Necessary                             HISTOG
C                                                                    HISTOG
   24     NFMAX  NF(1)                                               HISTOG
          Do 26 I  1,NINT                                            HISTOG
          NN(I)  NF(I)                                               HISTOG
          IF(NF(I)  NFMAX)26,26,25                                   HISTOG
```

```
//HISLOG Job (SRL, 001), M. Hoffman, MSGLevel=1, Class=D
//EXEC FORTGCLG, REGION. GO=240K
//FORT. SYSIN DD*
   25     NFMAX=NF(I)                                                    HISTOG
   26     Continue                                                       HISTOG
          JSCAL=1                                                        HISTOG
          IF(NFMAX-100)29,29,27                                          HISTOG
   27     JSCAL=(NFMAX+99)/100                                           HISTOG
28        Do 28 I = 1,NINT
   28     NF(I)=NF(I)/JSCAL                                              HISTOG
   29     Do 32 I=1,NINT                                                 HISTOG
          NFI=NF(I)                                                      HISTOG
          Do 30 I1=1,NFI                                                 HISTOG
   30     CHIS(I1)=ASTRIK                                                HISTOG
          NFP1=NFI+1                                                     HISTOG
          Do 31 I1=NFP1,100                                              HISTOG
   31     CHIS(I1)=ABLANK                                                HISTOG
          Write(6,7)I,ALOBD1(I),ALOBD2(I+1),NN(I),(CHIS(I1),I1=1,100)    HISTOG
   32     Continue                                                       HISTOG
          Write(6,5)                                                     HISTOG
          Write(6,8)JSCAL                                                HISTOG
          Write(6,5)                                                     HISTOG
   46     NV=NVT                                                         HISTOG
          Return                                                         HISTOG
          End                                                            HISTOG
    GO.SYSIN DD*
 1321672525252525252525252525252525252525252525252525252525252525252525252525
(1X,F8.1,4F9.1,9X,2F2.0,2X,2F2.0)
```

Histogram of Hours Spent in Model D Aircraft - Navigators
Histogram of Hours Spent in Model G Aircraft—Navigators
Histogram of Hours Spent in Model H Aricraft - Navigators
Histogram of Hours Spent in Aircraft Equipped with SRAM - Navigators
Histogram of Hours Spent in Aircraft Equipped with EVS—Navigators
Histogram of the Distribution of Rank—Navigators
Histogram of the Distribution of Ages—Navigators
Histogram of the Number of Months on Present Assignments—Navigators
Histogram of Number of Assignments—Navigators
Histogram of Hours Spent in Model D Aircraft - Radar Navigators
Histogram of Hours Spent in Model G Aircraft—Radar Navigators
Histogram of Hours Spent in Model H Aircraft—Radar Navigators
Histogram of Hours Spent in Aircraft Equipped with SRAM - Radar Navigators
Histogram of Hours Spent in Aircraft Equipped with EVS-Radar Navigators
Histogram of the Distribution of Rank—Radar Navigators
Histogram of the Distribution of Ages—Radar Navigators
Histogram of the Number of Months on Present Assignments—Radar Navigators
Histogram of Number of Assignments—Radar Navigators
Histogram of the Total Number of Hours on H and G Aircraft by the Navigators
Histogram of the Total Hours on D, G, H, Aircraft by Navigators
Histogram of the Total Hours on H and G Aircraft Spent by Radar Navigators
Histogram of Hours Spent on D, G, and H Aircraft—Radar Navigators
Histogram of the Average Number of Team Hours Spent in D Model Aircraft
Histogram of the Average Number of Team Hours Spent in G Model Aircraft
Histogram of the Average Number of Team Hours Spent in H Model Aircraft
Histogram of the Average Number of Team Hours Spent in Aircraft with SRAM
Histogram of the Average Number of Team Hours Spent in Aircraft with EVS
Histogram of the Average Rank per Team
Histogram of the Average Age per Team
Histogram of the Average Number of Months on Assignment per Team
Histogram of the Average Number of Hours Spent in G and H Aircraft per Team
Histogram of the Average Number of Hours Spent in D, G, and H Aircraft per Team

APPENDIX C

BMD01D — General Statistics: JCL and Control Cards

```
//BMDEXEC JOB (HED024,KD),G.P.CHUBB, MSGLEVEL=1
// EXEC BMDEXEC
//BMD.PROG DD DSN=SYS1.BMDLOAD(BMD01D)
//G0.SYSIN DD*
PROBLMPCPLTN00167044002010200                                          01
TRNGEN04511002000003
TRNGEN04611045000001
TRNGEN04711024000025
TRNGEN04811047000023
TRNGEN04911001000023
TRNGEN05011002000024
TRNGEN05111003000025
TRNGEN05211004000026
TRNGEN05311005000027
TRNGEN05411006000028
TRNGEN05511007000029
TRNGEN05611008000030
TRNGEN05711009000031
TRNGEN05811010000032
TRNGEN05911011000033
TRNGEN06011012000034
TRNGEN06111013000035
TRNGEN06211014000036
TRNGEN06311045000047
TRNGEN06411046000048
(1X,F8.1,4F9.1,9X,5F2.0,7F1.0,F2.0,2F1.0,F2.0,1X,F2.0)
FINISH
```

APPENDIX D

BMD02D — Correlation Analysis: JCL and Control Cards

```
//BMDEXEC JOB (HED024,KD),G.P.CHUBB, MSGLEVEL= 1,CLASS= C
// EXEC BMDEXEC
//BMD.PROG DD DSN=SYS1.BMDLOAD(BMD02D)
//GO.SYNSIN DD*
PROBLMPOPLS  44  270     20                                                    0200001
TRNGEN04511002000003
TRNGEN04611045000001
TRNGEN04711024000025
TRNGEN04811047000023
TRNGEN0491100l000023
TRNGEN05011002000024
TRNGEN05111003000025
TRNGEN05211004000026
TRNGEN05311005000027
TRNGEN05411006000028
TRNGEN05511007000029
TRNGEN05611008000030
TRNGEN05711009000031
TRNGEN05811010000032
TRNGEN05911011000033
TRNGEN06011012000034
TRNGEN06111013000035
TRNGEN06211014000036
TRNGEN06311045000047
TRNGEN06411046000048
(1X,F8.1,4F9.1,9X,5F2.0,7F1.0,F2.0,2F1.0,F2.0,1X,F2.0)
FINISH
```

APPENDIX E

DESCRIPTIVE STATISTICS

General Statistics

	Group	*N*
I.	SAC Crews	269
	H Bases	102
	G Bases	167
	E Crews	72
	R Crews	150
	S Crews	47
II.	H Bases With AOU	64
	E Crews	8
	R Crews	45
	S Crews	11
III.	H Bases Without AOU	38
	E Crews	10
	R Crews	22
	S Crews	6
IV.	G Bases With AOU	54
	E Crews	24
	R Crews	21
	S Crews	9
V.	G Bases Without AOU	113
	E Crews	30
	R Crews	62
	S Crews	21

GENERAL STATISTICS FROM SAC NAVIGATOR-RADAR NAVIGATOR QUESTIONNAIRES, N = 270

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	12.0248	303.8223	178.6060	408.7141	280.2090	2.1555	26.8658	5.7148	2.2925	482.4263	494.4529
s.d. (s)	43.7393*	282.8816	254.7203*	177.7182	180.1824	.4374	1.5913	6.8626*	1.5326	202.5852	220.7074
Range	520.0000	1030.0000	1300.0000	1000.0000	800.0000	2.0000	8.0000	62.0000	9.0000	1160.0000	1360.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	113.2353	524.3987	317.3984	544.0999	345.3401	2.6999	28.4213	6.4185	3.6185	841.8108	955.0464
s.d. (s)	383.2117*	542.7678*	447.8457*	228.1060	228.2192	.5054	2.1693	5.9500	2.6854	456.3562	647.0288
Range	3800.0000	2500.0000	2550.0000	1222.8999	950.0000	3.0000	11.0000	36.0000	18.0000	2708.3997	4650.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	62.6298	414.1169	248.0086	475.3992	312.7815	2.4277	27.6434	6.5666	5.9111	662.1140	724.7434
s.d. (s)	194.0915*	372.4197	323.8191*	159.8196	181.8146	.3353	1.3823	6.0537	3.3383	267.5881	358.8320
Range	1930.0000	1700.0000	1485.0000	916.0000	850.0000	2.0000	17.5000	36.0000	18.0000	1470.3499	2427.9001

* s.d. > $\bar{X}$

GENERAL STATISTICS OF NAVIGATOR-RADAR NAVIGATOR TEAMS FROM H BASES, N = 103

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	8.2039	6.7951	455.0413	413.7422	294.0879	2.0776	26.8929	7.3786	2.2524	461.8364	470.0403
s.d. (s)	29.9664*	46.6719*	199.5883	164.8228	184.2249	.3866	1.6458	5.5233	1.6589	204.9291	219.3255
Range	200.0000	433.5999	1144.0000	800.0000	795.0000	2.0000	7.0000	29.0000	7.0000	1144.0000	1344.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	126.6647	59.7796	770.8755	586.1541	367.9899	2.6699	28.3589	7.3398	3.8446	830.6548	957.3196
s.d. (s)	256.2346*	292.8796*	363.1328	231.4715	248.0863	.5467	2.2189	5.1700	3.0775	439.0891	626.7617
Range	1500.0000	1846.6999	2412.9001	1360.0000	950.0000	3.0000	11.0000	29.0000	18.0000	2350.0000	3415.0996

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	67.4341	33.2873	612.9595	499.9478	331.0378	2.3737	27.6259	7.3592	3.0485	646.2451	713.6789
s.d. (s)	131.9653*	147.6012*	208.3208	146.9934	191.4171	.3324	1.4179	5.1720	1.9180	258.6604	357.5862
Range	750.0000	923.3499	1297.5001	698.5001	850.0000	2.0000	7.0000	29.0000	18.0000	1307.9001	1907.9001

* s.d. > $\bar{X}$

GENERAL STATISTICS OF NAVIGATOR-RADAR NAVIGATOR TEAMS FROM G BASES

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	14.3215	487.0308	7.8500	405.3699	271.4099	2.1975	26.8558	6.3532	2.2993	494.8809	509.2022
s.d. (s)	50.0118*	198.9449	58.6714*	184.3937	176.0849	.4547	1.5631	7.6355*	1.4416	199.3521	219.3513
Range	520.0000	890.0000	580.0000	940.0000	780.0000	1.0000	8.0000	62.0000	9.0000	890.0000	1160.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	105.0133	810.9714	37.9826	515.1711	331.6416	2.7245	28.4545	5.8023	3.4969	848.9534	953.9666
s.d. (s)	442.5835*	454.2878	192.3087*	224.3584	213.4504	.4732	2.1411	6.1608*	2.3923	480.8237	657.1711
Range	3800.0000	2350.0000	1500.0000	1187.0000	880.0000	2.0000	11.0000	36.0000	14.0000	2708.3997	4650.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	59.6671	649.0000	22.9164	460.2695	301.5247	2.4610	27.6551	6.0778	2.8982	671.9155	731.5825
s.d. (s)	223.9245*	257.2642	99.7856*	165.4133	174.6822	.3331	1.3472	6.4904	1.4985	272.4627	359.4050
Range	1930.0000	1453.5000	750.0000	916.5000	812.5000	2.0000	8.5000	36.0000	15.0000	1462.4497	2420.0000

* s.d. > $\bar{X}$

GENERAL STATISTICS OF SAC NAVIGATOR-RADAR NAVIGATOR E TEAMS, N = 74

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	3.4716	322.2837	116.8512	370.5955	239.4901	2.1081	26.6241	7.2648	2.0135	439.1321	442.6038
s.d. (s)	15.8783*	239.87224	214.2659	166.7663	154.7022	.4214	1.6492	6.3493	1.2024	167.7258	173.6419
Range	120.0000	800.0000	875.0000	740.0999	743.0000	2.0000	7.0000	36.0000	4.0000	725.3000	725.3000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	151.7593	634.3911	194.2526	514.9207	313.6187	2.6892	28.4457	7.2567	3.7297	826.6423	980.4014
s.d. (s)	518.8189*	508.2053	343.6277*	199.0526	209.9629	.5433	2.2935	6.6841	2.8203	450.0557	722.8818
Range	3700.0000	2000.0000	1400.0000	1025.0000	900.0000	3.0000	10.0000	36.0000	17.0000	2658.3997	4600.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	77.6154	478.3372	155.5519	442.7581	276.5539	2.3986	27.6348	7.3108	1.8716	633.8869	711.5019
s.d. (s)	259.3042*	333.7542	259.9993*	141.3035	162.7227	.3389	1.4095	6.4026	1.6192	238.3974	374.2754
Range	1850.0000	1245.0000	950.0000	701.5000	806.5000	2.0000	7.0000	36.0000	17.0000	1422.9497	2470.5000

* s.d. < $\bar{X}$

GENERAL STATISTICS OF SAC NAVIGATOR-RADAR NAVIGATOR B TEAMS, N = 149

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	9.9846	255.4510	192.6391	398.4302	274.4326	2.1006	26.7779	6.4899	2.0805	448.0801	458.0645
s.d. (s)	30.7813*	265.0415*	241.1353*	172.5880	176.6839	.3973	1.5674	7.2479*	1.4119	191.4202	202.4735
Range	200.0000	1030.0000	950.0000	1000.0000	800.0000	2.0000	8.0000	62.0000	7.0000	890.0000	960.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	57.0847	372.7183	354.7971	517.3408	333.2471	2.6577	28.2143	6.0738	3.1815	727.5088	784.5947
s.d. (s)	110.6043*	435.3965*	448.4316*	218.6498	221.8243	.5021	2.0636	5 3509	2.4769	373.5503	417.1870
Range	1000.0000	1900.0000	2500.0000	1360.0000	950.0000	3.0000	11.0000	30.0000	18.0000	2400.0000	2400.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	33.5345	314.0847	273.7192	457.8884	303.8413	2.3791	27.4961	6.2818	2.6303	242.0999	242.0999
s.d. (s)	58.6045*	314.2729*	315.1919*	141.7617	172.0521	.3157	1.3478	5.7863	1.5382	1.1461	1.0926
Range	500.0000	1130.0000	1485.0000	698.5001	750.0000	1.5000	8.5000	34.5000	18.0000	1485.0000	1490.0000

* s.d. > $\bar{X}$

GENERAL STATISTICS OF NAVIGATOR-RADAR NAVIGATOR S TEAMS, N = 47

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	31.9595	428.1753	230.4382	500.4717	361.7827	2.3829	27.2339	6.4042	3.4042	658.6121	690.5715
s.d. (s)	83.8044*	348.2690	323.5144*	176.6059	198.0604	.4861	1.5485	6.2148	1.8296	191.1376	232.9649
Range	520.0000	900.0000	1300.0000	750.0000	765.0000	1.0000	6.0000	33.0000	9.0000	1140.0000	1340.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	230.5934	832.1401	393.7034	664.2399	434.5849	2.8723	29.0211	6.1915	4.8298	1225.8423	1456.4358
s.d. (s)	593.1553*	701.3071	539.3565	266.7222	251.2829	.3924	2.1891	6.3233*	2.7079	542.1909	822.5193
Range	3800.0000	2500.0000	2000.0000	1097.0000	930.0000	2.0000	10.0000	33.0000	14.0000	2093.9998	3850.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	131.2764	630.1569	312.0708	582.3547	398.1831	2.6277	28.1274	6.2979	4.1170	942.2271	1073.5029
s.d. (s)	303.1631*	472.6223	401.1138*	193.5502	211.5378	.3174	1.2804	6.2165	1.7699	304.0962	442.8115
Range	1930.0000	1700.0000	1425.0000	801.5000	820.0000	1.5000	6.0000	33.0000	15.0000	1395.0000	2182.5000

* s.d. > $\bar{X}$

H BASES WITH AOU: POPULATION = 64

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	9.5313	8.0250	457.4128	416.6333	332.0183	2.0625	26.9844	2.5000	6.7031	465.4375	474.9688
s.d.(s)	33.3274	54.5274	216.4085	158.3980	160.0315	.3903	1.7365	.7500	4.9927	222.3509	241.0073
Range	200.0000	433.5999	1144.0000	644.0000	720.0000	2.0000	7.0000	19.0000	7.0000	1144.0000	1344.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	111.6953	79.0203	756.1555	623.4133	396.0835	2.7031	28.3906	2.5156	7.0000	835.1758	946.8711
s.d.(s)	236.4070	344.4573	296.9297	241.4063	200.0579	.4899	2.2954	.7498	5.3997	418.3694	598.8098
Range	1071.0999	1846.7000	1312.8999	1222.8999	875.0000	2.0000	11.0000	27.0000	18.0000	2343.9998	3368.7996

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	60.6133	43.5226	606.7827	520.0222	364.0500	2.3828	27.6875	2.5078	5.6562	650.3052	710.9185
s.d.(s)	124.6255	173.4616	178.3735	147.1160	150.3581	.3029	1.3821	.6987	3.6131	260.0376	360.2913
Range	600.0000	923.3499	762.5000	699.0000	662.5000	1.0000	6.5000	2.0000	16.0000	1307.9000	1907.9002

Corrected Values Variables	1	2	23*	24	49**	50**
Mean ($\bar{X}$)	101.6667	256.8000	238.2800	1011.2400	192.0000	-
s.d.(s)	54.5588	250.0330	303.5295	848.0050	228.5990*	-
n	6	2	30	5	5	-

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

H BASES WITH AOU: E TEAMS: n = 8

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	15.0000	-	559.6250	484.6250	274.6250	2.1250	27.3750	9.3750	2.7500	559.6250	559.6250
s.d.(s)	39.6862*	-	165.1166	152.7489	170.0728	.3307	1.2185	5.5666	1.1989	183.4387	183.4387
Range	120.0000	-	593.0000	493.0000	565.0000	1.0000	3.0000	18.0000	4.0000	593.0000	593.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	43.1250	-	678.3623	485.9499	309.3750	2.5000	28.5000	10.5000	2.0000	678.3623	781.4573
s.d.(s)	58.0375*	-	336.9871	156.5467	157.7665	.7071	1.1180	7.5993	1.0000	336.9871	384.3435
Range	150.0000	-	1200.0000	550.0000	565.0000	2.0000	4.0000	26.0000	3.0000	1200.0000	1350.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	29.0625	-	618.9934	485.2874	292.0000	2.3125	27.9375	9.9375	2.3750	618.9934	648.0559
s.d.(s)	41.6822*	-	144.3245	71.9727	152.4293	.2421	.7262	6.5021	.7440	144.3245	178.9041
Range	115.0000	-	456.2002	250.0000	552.5000	.5000	2.5000	22.0000	20.0000	456.2002	531.2002

Corrected Values

Variables	1	23	49
Mean ($\bar{X}$)	120.0000	115.0000	115.0000
s.d.(s)	-	32.7872	-
n	1	3	1

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

H BASES WITH AOU: R TEAMS: n = 45

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	2.8889	11.4133	420.4172	400.1951	329.5049	2.0444	26.9554	6.3776	2.0667	431.8306	434.7195
s.d.(s)	13.7643*	64.7296*	193.1842	160.6491	161.1343	.3625	1.7900	4.8134	1.5406	204.5330	206.1266
Range	80.0000	433.5998	794.0000	794.0000	695.0000	2.0000	7.0000	19.0000	7.0000	794.0000	794.0000

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	79.9665	4.2044	725.9541	619.9524	407.8491	2.6667	27.9999	6.7111	3.4222	730.1585	806.1245
s.d.(s)	161.1689	19.7367	282.1677	265.7134	205.4777	.5164	2.1097	4.7732	3.0947	279.5081	350.2058
Range	1000.0000	109.2000	1222.9001	1360.0000	850.0000	2.0000	11.0000	17.0000	18.0000	1160.0000	1753.7001

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	39.4277	7.8089	573.1858	510.0742	368.6770	2.3556	27.4776	6.5444	2.7444	580.9946	620.4224
s.d.(s)	81.0921*	33.4795*	171.6736	153.1784	143.1394	.2910	1.3309	4.6593	1.8818	176.0774	218.6224
Range	500.0000	216.7999	699.0000	699.0000	650.0000	1.0000	6.0000	17.0000	9.0000	678.6500	1132.9000

Corrected Values

Variables	1	2	23	24	49**
Mean ($\bar{X}$)	65.0000	256.8000	162.8095	94.6000	37.5000
s.d.(s)	21.2132	250.0330	208.8073*	20.6475	53.0330
n	2	2	21	2	2

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

H BASES WITH AOU: S TEAMS: n = 11

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	32.7273	-	595.7810	486.6995	384.0358	2.2727	26.8182	5.8182	2.9091	595.7810	628.5081
s.d.(s)	61.6576*	-	278.3325	146.5132	128.9455	.4454	1.8002	4.6869	1.7297	278.3325	331.5278
Range	200.0000	-	1140.0000	527.1999	440.0000	1.0000	6.0000	17.0000	6.0000	1140 0000	1340.0000

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	307.7271	442.5544	874.9175	685.2719	411.0088	2.8182	29.9091	5.9091	4.0909	1317.4719	1625.1989
s.d.(s)	411.5645*	727.4211*	330.5639	170.4979	189.1676	[illegible]	2.9376	4.8139	2.3142	597.5852	974.2925
Range	1071.0999	1846.6999	1150.0000	603.0000	575.0000	1.0000	[illegible]	19.0000	9.0000	2143.9997	3215.0996

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	170.2272	-	735.3488	585.9856	397.5222	2.5455	28.3636	5.8636	3.5000	956.6239	1126.8528
s.d.(s)	218.2311*	-	167.7591	143.2879	155.7177	.3340	1.6807	4.7391	2.9703	370.4575	571.8977
Range	600.0000	-	645.0000	490.0998	507.5000	1.0000	6.0000	19.0000	6.5000	1245.0000	1845.0000

Corrected Values

Variables	1	23	24	49**
Mean ($\bar{X}$)	120.0000	564.1500	1289.0000	340.0000
s.d.(s)	72.1110	446.1144	702.3511	367.6955*
n	3	6	3	2

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

H BASES WITHOUT AOU: POPULATION = 39

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	6.2821	4.7769	434.9563	395.3672	232.9536	2.0762	26.7179	8.3589	2.2564	439.7332	446.0148
s.d.(s)	24.4351*	29.4469*	159.3132	168.6292	205.3343	.4166	1.4499	5.5539	1.7934	164.1078	171.1051
Range	110.0000	186.2999	650.0000	750.0000	750.0000	2.0000	7.0000	28.0000	7.0000	650.0000	650.0000

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	150.9743	28.2051	811.2593	538.6643	320.7939	2.6410	28.3332	8.0256	4.5641	839.4500	990.4326
s.d.(s)	284.1375*	173.8681*	440.3242	195.9234	304.7144	.5768	2.0683	5.4041	3.3189	460.6504	658.8203
Range	1500.0008	1100.0000	2200.0000	700.0000	950.0000	3.0000	10.0000	28.0000	17.0000	2200.0000	2850.0000

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	78.6280	16.4910	623.1055	467.0161	276.8738	2.3589	27.5255	2.1923	3.4105	639.5964	718.2236
s.d.(s)	142.4917*	87.7891*	249.4469	140.6956	234.4016	.3747	1.4603	5.2092	2.0611	256.2170	353.0312
Range	750.0000	550.0000	1174.0000	650.0000	850.0000	2.0000	7.0000	28.0000	17.0000	1174.0000	1274.0000

Corrected Values

Variables	1	2	23	24	49**	50**
Mean ($\bar{X}$)	81.6667	186.3	267.6364	1100.000	-	96.6667
s.d.(s)	49.075	-	342.3825*	-	-	66.0177
n	8	1	22	1	-	3

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

H BASES WITHOUT AOU: E TEAMS: n = 11

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	2.2727	-	382.9995	361.2722	254.1817	2.0901	26.9090	9.7273	1.27273	382.9995	385.2722
s.d.(s)	7.1769	-	105.0922	118.4939	175.4694	.5143	1.4439	4.39156	.4454	105.0922	110.1888
Range	25.0000	-	413.0000	413.0000	591.0000	1.000	4.0000	17.0000	1.0000	413.0000	438.0000

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	232.5454	100.0000	684.4539	489.4536	342.8174	2.6364	28.7272	9.0909	4.8182	724.4538	1016.9990
s.d.(s)	417.8713*	316.2279*	168.8877	157.2419	284.3171	.4811	2.2201	4.5817	4.5491	334.1143	735.3919
Range	1500.0000	1100.0000	526.0000	488.0000	850.0000	1.0000	8.0000	16.0000	17.0000	1270.0000	2770.0000

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	117.4092	-	533.7266	425.3630	298.4995	2.3636	27.8182	9.4091	3.0454	583.7266	701.1355
s.d.(s)	208.4016	-	80.8683	108.1093	209.2875	.3083	1.6419	3.7648	2.3917	167.8303	366.5623
Range	750.0000	-	257.0000	296.5000	626.0000	1.0000	6.0000	13.0000	13.0000	659.5000	1372.5000

Corrected Values

Variables	1**	23**	24**	49
Mean ($\bar{X}$)	25.0000	348.2857	1100.0000	25.0000
s.d.(s)	-	524.7402	-	0.0000
n	1	8	1	1

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

H BASES WITHOUT AOU: R TEAMS: n = 22

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	10.0000	8.4682	416.0627	389.4717	183.2817	2.0000	26.4999	7.4999	2.3182	424.5308	434.5308
s.d.(s)	31.6228*	38.8061*	152.6851	181.9334	177.6273	.3015	1.3066	6.0884	1.8681	162.3284	174.2409
Range	110.0000	186.2999	500.0000	700.0000	608.0000	2.0000	5.0000	28.0000	7.0000	500.0000	510.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	79.3181	-	755.9077	510.1799	253.6362	2.4999	27.8636	7.4091	4.1818	755.9077	835.2256
s.d.(s)	98.9294*	-	477.4722	172.5272	273.2444*	.5839	1.7138	5.7892	2.7409	477.4722	517.6201
Range	300.0000	-	2200.0000	650.0000	853.0000	1.[illegible]	[illegible].0000	28.0000	11.0000	2200.0000	2200.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	44.6590	-	585.9854	449.8259	218.4589	2.2500	27.1817	7.4545	3.5000	590.2195	634.8782
s.d.(s)	55.4542*	-	243.4799	119.6743	198.4511	.3286	1.1743	5.7739	1.8306	241.9399	263.8948
Range	155.0000	-	1176.0000	509.0000	654.0000	1.5000	4.0000	28.0000	7.0000	1176.0000	1176.0000

Corrected Values Variables	1**	2**	23**	49*
Mean $\bar{X}$	110.0000	186.0000	168.1250	132.5000
s.d.(s)	0.0000	-	62.7888	31.8198
n	2	1	8	2

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

H BASES WITHOUT AOU: S TEAMS: n = 6

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	-	-	599.4998	479.4995	376.1663	2.3333	27.1666	9.0000	3.8333	599.4998	599.4998
s.d.(s)	-	-	160.9478	168.4763	267.4629	.4741	1.7719	4.7609	1.8634	160.9474	160.9474
Range	-	-	490.0000	510.0000	720.0000	1.0000	5.0000	14.0000	5.0000	490.0000	490.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	264.1665	-	1246.6663	733.3330	526.6665	3.1667	29.3333	8.3333	5.5000	1246.6663	1510.8328
s.d.(s)	353.4404	-	376.4612	222.9857	348.9351	.3727	2.4269	4.9888	2.1409	376.4612	697.8445
Range	1000.0000	-	1150.0000	550.0000	920.0000	1.0000	7.0000	14.0000	7.0000	1150.0000	2050.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	-	-	923.0830	606.4163	451.4165	2.7500	28.2499	8.6666	4.6666	923.0830	923.0830
s.d.(s)	-	-	255.7383	176.1445	297.6489	.3819	1.6522	4.8189	2.1370	255.7383	255.7383
Range	-	-	820.0000	525.0000	820.0000	1.0000	4.0000	14.000	4.5000	800.000	820.0000

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the caluclations.

G BASES WITH AOU: POPULATION: n = 54

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	14.2722	484.6155	0.0	423.1262	244.1955	2.2407	26.6850	5.7778	2.5376	484.6155	498.8872
s.d.(s)	36.0000	181.6849	-	206.6503	137.8289	.4733	1.4252	4.5956	1.3969	181.6849	198.7800
Range	200.0000	734.0999	-	940.0000	565.5000	2.0000	6.0000	20.0000	5.0000	734.0999	934.0999

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	236.4827	792.1099	75.4776	501.6252	269.7195	2.7592	28.4998	5.5370	3.8333	867.5881	1104.0728
s.d.(s)	760.8215	444.4675	290.8948	226.8194	140.4748	.5116	2.3771	4.6691	2.9953	522.2395	907.0642
Range	3800.0000	1770.0000	1500.0000	1000.0000	580.7998	2.0000	10.0000	2.0000	14.0000	2658.3997	4600.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	125.3774	638.3640	37.7388	462.3753	256.9597	2.4999	27.5924	2.5741	3.1252	676.1001	801.4785
s.d.(s)	379.1777	240.3774	144.0947	174.0808	121.0627	.3469	1.4023	.6966	1.6804	289.2134	479.9370
Range	1930.0000	987.5000	750.0000	845.0000	439.6600	1.5000	5.5000	2.0000	6.5000	1454.9497	2412.5000

Corrected Values Variables	1	3	23	25	49**	51**
Mean ($\bar{X}$)	77.0700	-	440.1034	1018.7500	343.2125	-
s.d.(s)	49.9372	-	1001.4691*	461.5982	647.1606*	-
n	10	-	29	4	8	-

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

G BASES WITH AOU: E TEAMS: n = 24

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	2.5792	413.9448	-	344.1411	190.5457	2.1250	26.7087	6.2083	2.3749	413.9448	416.5293
s.d.(s)	8.8133*	151.4149	-	183.0548	100.5286	.4389	1.4378	4.4251	1.4086	151.4149	155.3874
Range	38.2999	424.1001	-	740.0098	350.5000	2.0000	6.0000	13.0000	4.0000	424.1001	428.1098

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	295.5486	879.4607	48.9916	501.5742	244.8540	2.9167	28.7499	6.2083	4.4583	928.4524	1224.0019
s.d.(s)	835.2810*	449.1877	234.9557*	187.0275	147.4328	.4930	2.8617	4.3778	2.8574	579.3679	1007.2334
Range	3700.0000	1650.0000	1157.7998	700.0000	590.8000	2.0000	10.0000	13.0000	9.0000	2538.3446	4490.0000

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	149.0644	646.7024	24.4985	422.8572	217.6998	2.5208	27.7291	6.2083	3.4166	671.1982	820.2625
s.d.(s)	417.3374	232.9831	117.4779	151.4986	109.2802	.3379	1.5944	4.3323	1.6278	302.4775	525.2678
Range	1850.0000	913.3001	587.8990	665.0000	352.1501	1.5000	5.5000	13.0000	9.0000	1380.7498	2338.3001

Corrected Values

Variables	1	23	25	49**
Mean $(\bar{X})$	34.5000	461.6133	1175.0000	48.3333
s.d.(s)	9.5828	1055.7889*	-	32.2364
n	3	15	1	3

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

G BASES WITH AOU: R TEAMS: n = 21

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	23.27142	493.4651	-	463.5891	269.2617	2.2381	26.6189	5.2381	2.4286	493.4651	516.7368
s.d.(s)	49.3984*	191.8654	-	214.4371	151.4843	.4259	1.4317	5.1815	1.2936	191.8654	219.2081
Range	200.0000	730.0000	-	830.0000	553.5000	1.0000	6.0000	20.0000	4.0000	730.0000	930.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	53.3380	534.0176	119.0476	442.2705	277.7139	2.5238	28.1427	5.2381	2.4286	653.0649	706.4033
s.d.(s)	61.8411*	233.4542	374.9526*	184.4956	134.3377	.4995	1.7544	5.1446	2.0136	353.6758	400.7559
Range	200.0000	900.0000	1500.0000	600.0000	511.1111	1.0000	6.0000	20.0000	9.0000	1500.0000	1680.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	38.3047	513.7412	59.5238	452.9269	273.4878	2.3809	27.3808	5.2381	2.4286	573.2649	611.5703
s.d.(s)	46.6711*	134.1897	187.4764*	157.3709	121.2637	.3418	1.3276	5.1539	1.2556	225.3979	259.6450
Range	190.0000	617.5000	750.0000	530.0000	428.3000	1.0000	6.0000	20.0000	12.0000	1042.5000	1233.5000

Corrected Values Variables	1	23	25	49**
Mean $(\bar{X})$	86.7500	96.8083	1250.0000	88.8300
s.d.(s)	60.7300	51.6308	353.5534	60.1893
n	6	12	2	5.0000

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

G BASES WITH AOU: S TEAMS: n = 9

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	24.4555	652.4326	-	539.3552	328.7886	2.5555	26.7778	5.8889	3.2222	652.4326	676.8882
s.d.(s)	36.2543	75.4879	-	144.4539	122.8027	.4969	1.2276	2.8846	1.3147	75.4879	75.2989
Range	100.0000	260.3999	-	450.0000	386.6001	1.0000	4.0000	9.0000	4.0000	260.3999	260.3999

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	506.3215	1161.3992	44.4444	640.2661	317.3887	2.8889	28.6666	4.4444	5.4444	1201.8435	1712.1655
s.d.(s)	1174.3096	431.2771	125.7079	320.6650	109.8402	.3143	1.9442	3.5936	3.6549	432.9631	993.9587
Range	3800.0000	1300.0000	400.0000	950.0000	315.0009	1.0000	7.0000	11.0000	13.0000	1300.0000	3590.0000

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	265.3887	906.9158	22.2221	589.8103	323.0886	2.7222	27.7222	5.1666	4.3333	929.1379	1194.5266
s.d.(s)	595.2588	226.6321	62.8539	205.4637	112.5244	.2485	.8538	3.0459	2.0000	224.8579	499.3796
Range	1930.0000	686.9947	200.0000	700.0000	321.2505	.5000	3.0000	9.5000	12.0000	687.4999	1797.5000

Corrected Values

Variables	1	23	25	49**
Mean ($\bar{X}$)	73.3333	911.3800	400.0000	1115.0000
s.d.(s)	23.0940	1625.2101*	-	1152.5841*
n	3	5	1	2

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

GENERAL STATISTICS FROM POPULATION USING MODEL G AIRCRAFT WITHOUT AOU (n = 313)

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	8.5841	489.1873	6.4690	396.5476	288.0459	2.1770	26.9469	6.6283	2.1593	495.4563	504.2405
s.d.(s)	25.5226*	205.0430	46.6781*	171.5964	195.9353	.4448	1.5027	8.7578	1.2787	205.6207	214.3563
Range	120.0000	890.0000	475.0000	736.0000	800.0000	2.0000	8.0000	62.0000	2.0000	890.0000	920.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	47.9479	819.0132	25.1973	522.0059	357.6113	2.7080	28.4248	5.9292	3.3628	844.2107	892.1570
s.d.(s)	88.8156*	464.7036	129.8753*	226.4841	233.9254	.4567	2.0520	6.7900	2.1550	462.3555	487.9211
Range	520.0000	2330.0000	1000.0000	1187.0000	880.0000	1.0000	11.0000	36.0000	9.0000	2350.0000	2350.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	28.2659	654.0982	15.8332	459.2748	322.8283	2.4425	27.8359	6.2788	2.0266	669.9314	698.1974
s.d.(s)	48.4453*	264.7842	68.1029*	161.0811	191.5442	.3244	1.3051	7.2356	1.3905	264.1433	278.1433
Range	542.0000	2907.0000	1000.0000	1743.0000	1625.0000	3.0000	16.0000	72.0000	12.0000	2900.0000	2900.0000

Corrected Values (unequal n's) Variables	1	3	9	23	25	31	49**	51**	57
Mean ($\bar{X}$)	69.2860	182.7500	7.2020	126.0000	474.5500	5.9300	69.9260	178.9000	6.6667
s.d.(s)	31.7750	169.6840	8.8580*	103.4940	318.7830	6.7999*	54.2900	152.4000	7.2670*
n	14	4	104	42	6	105	47	10	104

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

GENERAL STATISTICS DESCRIBING E TEAMS FROM BASES WITH MODEL G AIRCRAFT WITHOUT AOU (n = 30)

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	1.6667	442.1731	0.0	370.2231	269.2764	2.1333	26.1333	7.0667	1.8667	442.1731	443.8398
s.d.(s)	9.1287	185.1529	-	168.2727	174.0064	.4342	1.9286	8.0855*	1.0743	185.1529	188.3563
Range	50.0000	650.2998	-	615.2998	725.0000	2.0000	7.0000	36.0000	4.0000	650.2998	665.2998

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	41.1333	803.9097	6.6667	540.0764	363.7764	2.5333	28.1333	6.7333	3.1667	810.5764	851.7097
s.d.(s)	77.4322*	394.1431	36.5148*	234.7724	219.4114	.5371	2.0634	8.2417*	1.8770	386.0596	399.1624
Range	394.0000	1750.0000	200.0000	1025.0000	850.0000	1.0000	10.0000	36.0000	7.0000	1732.0000	1732.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	21.4000	623.0415	3.3335	435.1498	316.5265	2.3334	27.4334	6.9000	2.5150	626.3748	647.7748
s.d.(s)	38.5243*	222.3744	17.9506*	155.2250	165.9759	.3496	1.2721	8.0056*	1.1853	221.2521	228.3969
Range	394.0000	1781.0000	200.0000	1315.0000	1565.0000	3.0000	10.0000	72.0000	8.0000	1781.0000	1781.0000

Corrected Values (unequal n's) Variables	1	3	9	23	25	31	49**	51**	57
Mean $\bar{X}$	50.0000	0.0	7.3100	102.8333	200.0000	6.9667	50.0000	0.0	7.1380
s.d.(s)	-	-	8.1160*	94.2625	-	8.2870*	-	-	8.1800*
n	1	-	29	12	1	29	1	-	29

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

GENERAL STATISTICS DESCRIBING R TEAMS FROM BASES WITH MODEL G AIRCRAFT WITHOUT AOU (n = 62)

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	8.6935*	442.4932	10.1774*	374.0288	262.6047	2.1290	26.8387	6.5645	1.9032	452.6707	461.3643
s.d.(s)	26.7162	186.3066	61.7157	150.5912	176.7641	.4240	1.4843	9.3819*	1.0971	187.6705	146.0726
Range	120.0000	890.0000	475.0000	710.0000	780.0000	2.0000	8.0000	62.0000	10.0000	890.0000	920.0000

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	37.6145*	725.2786	17.2145*	473.2480	326.3674	2.7581	28.4677	5.3548	2.8871	742.4929	780.1074
s.d.(s)	71.3256	400.8997	96.3391	175.6890	224.1399	.4318	2.2156	5.5222*	1.7751	393.9895	421.7866
Range	350.0000	1750.0000	700.0000	663.0000	793.0000	1.0000	11.0000	24.0000	7.0000	1750.0000	1850.0000

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	28.2659*	583.8935	0.0	423.6385	294.4861	2.4436	27.6532	5.9597	2.3952	597.5860	620.5000
s.d.(s)	38.5431	208.6449	-	121.0806	178.3042	.2993	1.3764	6.5699*	1.1385	198.6550	210.6208
Range	350.0000	1767.0000	-	920.0000	1208.0000	2.0000	16.0000	69.0000	9.0000	1760.0000	1800.0000

Corrected Values (unequal n's)

Variables	1	3	9	23	25	31	49	51	57
Mean $\bar{X}$	77.0000	210.3333	7.6000	116.5500	355.7667	5.5890	72.1000	-	6.3000
s.d.(s)	33.4714	230.2614*	9.6556*	81.5073	320.0153	5.4900	37.1115	-	6.5370*
n	7	3	55	20	3	56	4	0	53

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in the calculations.

GENERAL STATISTICS DESCRIBING S TEAMS FROM BASES WITH MODEL G AIRCRAFT WITHOUT AOU (n = 21)

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Mean $\bar{X}$	18.4290	694.2092	4.7619	500.6379	389.9712	2.3810	27.5714	6.1905	3.3333	698.9712	717.1140
s.d.(s)	34.4271*	160.2572	21.8217*	201.7038	249.6929	.4976	1.3256	8.1064*	1.4259	161.9150	171.9165
Range	100.0000	540.0000	100.0000	726.0000	790.0000	1.0000	4.0000	33.0000	6.0000	540.0000	590.0000

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Mean $\bar{X}$	88.1905	1117.3333	75.2381	640.1429	441.0476	2.8095	28.7143	6.4762	5.0476	1192.5713	1280.7617
s.d.(s)	133.6515*	610.6123	246.7307*	301.1279	270.2131	.4024	1.4881	8.0661*	2.7473	590.5803	599.6726
Range	520.0000	2360.0000	1000.0000	1097.0000	800.0000	1.0000	6.0000	33.0000	9.0000	2003.0000	1999.0000

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Mean $\bar{X}$	53.1665	905.7714	40.0000	570.3904	415.5094	2.5953	28.1429	6.3334	4.1905	945.7714	998.9380
s.d.(s)	73.2743*	314.3267	120.1189*	213.9765	230.6098	.2936	.9915	7.8654*	1.4788	307.2717	314.6035
Range	542.0000	2380.0000	1000.0000	1603.0000	1420.0000	2.0000	8.0000	66.0000	3.0000	2380.0000	2380.0000

Corrected Values (unequal n's) Variables	1	3	9	23	25	31	49**	51**	57
Mean ($\bar{X}$)	63.5000	100.0000	6.5000	154.3333	793.0000	6.8000	145.3000	-	6.6500
s.d.(s)	35.8427	-	8.1920*	144.4903	296.9848	8.1340*	98.1731	-	8.1340*
n	6	1	20	12	2	20	5	0	20

* s.d. > $\bar{X}$

** Only teams where both members had experience were considered in these calculations.

GENERAL STATISTICS FROM SAC NAVIGATOR-RADAR NAVIGATOR QUESTIONNAIRES, N = 270

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	520.0000	1030.0000	1300.0000	1000.0000	800.0000	3.0000	31.0000	62.0000	10.0000	1300.0000	1500.0000
Minimum X	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	23.0000	0.0000	1.0000	140.0000	140.0000
Skew	6.9849	.3714	1.2751	.6005	.7187	.7642	.1205	3.0205	1.6295	.5524	.8187

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	3800.0000	2500.0000	2550.0000	1360.0000	950.0000	4.0000	36.0000	36.0000	18.0000	2858.3997	4800.0000
Minimum X	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	25.0000	0.0000	0.0000	150.0000	150.0000
Skew	7.3954	1.0222	1.3732	.6966	.5190	-.7220	1.0863	1.7879	2.0096	1.4884	2.3947

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1930.0000	1700.0000	1485.0000	1046.5000	850.0000	3.5000	33.0000	36.0000	16.0000	1712.4497	2670.0000
Minimum X	0.0000	0.0000	0.0000	130.0000	0.0000	1.5000	24.5000	0.0000	1.0000	242.0998	242.0998
Skew	7.1902	.4724	.9655	.5285	.3473	.1781	.1021	1.9071	1.3195	1.3502	2.1266

GENERAL STATISTICS OF NAVIGATOR-RADAR NAVIGATOR TEAMS FROM H BASES, N = 103

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	200.0000	433.5999	1300.0000	800.0000	795.0000	3.0000	31.0000	30.0000	8.0000	1300.0000	1500.0000
Minimum X	0.0000	0.0000	156.0000	0.0000	0.0000	1.0000	24.0000	1.0000	1.0000	156.0000	156.0000
Skew	4.1593	8.0117	1.0863	.3038	.5170	.7292	.4276	1.4259	1.7135	.9984	1.2772

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	1500.0000	1846.6999	2550.0000	1360.0000	950.0000	4.0000	36.0000	30.0000	18.0000	2550.0000	3615.0996
Minimum X	0.0000	0.0000	137.0999	0.0000	0.0000	1.0000	25.0000	1.0000	0.0000	200.0000	200.0000
Skew	3.2917	4.9932	1.4549	.4543	.3189	-.7047	1.2199	1.2517	2.2468	1.6046	2.1126

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	750.0000	923.3499	1485.0000	886.0000	850.0000	3.5000	32.0000	30.0000	20.0000	1550.0000	2150.0000
Minimum X	0.0000	0.0000	187.4999	187.4999	0.0000	1.5000	25.0000	1.0000	2.0000	242.0999	242.0999
Skew	3.2255	4.8279	1.2094	.3979	.1242	.3137	.5495	1.3606	1.9746	1.5129	2.0693

GENERAL STATISTICS OF NAVIGATOR-RADAR NAVIGATOR TEAMS FROM G BASES, N =

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	520.0000	1030.0000	580.0000	1000.0000	800.0000	3.0000	31.0000	62.0000	10.0000	1030.0000	1300.0000
Minimum X	0.0000	140.0000	0.0000	60.0000	20.0000	1.0000	23.0000	0.0000	1.0000	140.0000	140.0000
Skew	6.8586	.3143	8.6230	.7386	.8529	.7118	.2577	3.3488	1.5782	.2734	.5515

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	3800.0000	2500.0000	1500.0000	1337.0000	900.0000	4.0000	36.0000	36.0000	15.0000	2858.3997	4800.0000
Minimum X	0.0000	150.0000	0.0000	150.0000	20.0000	2.0000	25.0000	0.0000	1.0000	150.0000	150.0000
Skew	7.3616	1.2808	5.6663	.8747	.6446	-.6765	1.0284	2.0440	1.5113	1.4222	2.5438

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1930.0000	1700.0000	750.0000	1046.5000	832.5000	3.5000	33.0000	36.0000	17.0000	1712.4497	2670.0000
Minimum X	0.0000	246.5000	0.0000	130.0000	20.0000	1.5000	24.5000	0.0000	2.0000	250.0000	250.0000
Skew	7.1889	1.1567	5.1353	.6557	.4929	.0702	.2540	2.1590	1.5442	1.2591	2.1646

GENERAL STATISTICS OF SAC NAVIGATOR-RADAR NAVIGATOR E TEAMS, N = 74

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	120.0000	800.0000	875.0000	800.0999	765.0000	3.0000	31.0000	36.0000	5.0000	875.0000	875.0000
Minimum X	0.0000	0.0000	0.0000	60.0000	22.0000	1.0000	24.0000	0.0000	1.0000	149.7000	149.7000
Skew	5.8754	.0087	1.6359	.6322	1.2486	.6554	.3805	1.8095	1.2332	.2685	.3649

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	3700.0000	2000.0000	1400.0000	1200.0000	900.0000	4.0000	35.0000	36.0000	18.0000	2858.3997	4800.0000
Minimum X	0.0000	0.0000	0.0000	175.0000	0.0000	1.0000	25.0000	0.0000	1.0000	200.0000	200.0000
Skew	5.4240	.6211	1.6055	.6231	.8257	-.5435	1.3813	1.8326	2.2389	1.2956	2.8165

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1850.0000	1245.0000	950.0000	832.5000	832.5000	3.5000	32.0000	36.0000	19.0000	1712.4497	2670.0000
Minimum X	0.0000	0.0000	0.0000	130.0000	25.0000	1.5000	25.0000	0.0000	2.0000	289.5000	289.5000
Skew	5.4109	.0464	1.2429	.5037	.8428	.2549	.4937	1.8508	1.6199	1.7870	2.7427

GENERAL STATISTICS OF NAVIGATOR-RADAR NAVIGATOR S TEAMS, N = 47

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	520.0000	900.0000	1300.0000	900.0000	795.0000	3.0000	31.0000	33.0000	10.0000	1300.0000	1500.0000
Minimum X	0.0000	0.0000	0.0000	150.0000	30.0000	2.0000	25.0000	0.0000	1.0000	160.0000	160.0000
Skew	4.3957	-.2021	1.1872	.2007	.0953	.4812	.6029	2.0549	1.2059	.2903	.8461

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	3800.0000	2500.0000	2000.0000	1337.0000	950.0000	4.0000	36.0000	33.0000	15.0000	2543.9998	4300.0000
Minimum X	0.0000	0.0000	0.0000	240.0000	20.0000	2.0000	26.0000	0.0000	1.0000	450.0000	450.0000
Skew	4.7776	.4111	1.0390	.3048	.0492	-1.1077	1.2664	2.0118	1.3697	.7104	1.4738

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1930.0000	1700.0000	1425.0000	1046.5000	850.0000	3.5000	31.5000	33.0000	17.0000	1700.0000	2487.5000
Minimum X	0.0000	0.0000	0.0000	245.0000	30.0000	2.0000	25.5000	0.0000	2.0000	305.0000	305.0000
Skew	4.5913	-.0063	.8358	.0479	-.0489	.2209	.7220	2.0978	1.2878	.6526	1.2995

GENERAL STATISTICS OF SAC NAVIGATOR-RADAR NAVIGATOR B TEAMS, N = 149

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	200.0000	1030.0000	950.0000	1000.0000	800.0000	3.0000	31.0000	62.0000	8.0000	1030.0000	1100.0000
Minimum X	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	23.0000	0.0000	1.0000	140.0000	140.0000
Skew	3.4233	.6247	.9875	.7395	.6911	.8248	.2303	3.6298	1.8171	.6872	.7171

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	1000.0000	1900.0000	2550.0000	1360.0000	950.0000	4.0000	36.0000	30.0000	18.0000	2550.0000	2550.0000
Minimum X	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	25.0000	0.0000	0.0000	150.0000	150.0000
Skew	4.7842	1.2564	1.3049	.7136	.5018	-.6657	.9250	1.4917	2.2881	1.5211	1.2325

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	500.0000	1130.0000	1485.0000	886.0000	750.0000	3.0000	33.0000	34.5000	20.0000	587.7966	621.3318
Minimum X	0.0000	0.0000	0.0000	187.4999	0.0000	1.5000	24.5000	0.0000	2.0000	204.1181	229.6191
Skew	4.0251	.4696	.7559	.3431	.1098	.07323	.4371	1.8545	1.5440	1242.9000	1247.9000

BASES WITH MODEL H AIRCRAFT WITH AOU, n = 64

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	200.0000	433.5999	1300.0000	800.0000	795.0000	3.0000	31.0000	20.0000	8.0000	1300.0000	1500.0000
Minimum X	0.0000	0.0000	156.0000	156.0000	75.0000	1.0000	24.0000	1.0000	1.0000	156.0000	156.0000
Skew	4.0069	7.4614	1.1896	.4041	.7339	.5666	.5797	-1.1111	.8624	1.0866	1.4066

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	1071.0999	1846.7000	1450.0000	1360.0000	950.0000	4.0000	36.0000	28.0000	18.0000	2543.9998	3615.0996
Minimum X	0.0000	0.0000	137.1000	137.1000	75.0000	2.0000	25.0000	1.0000	0.0000	200.0000	246.3000
Skew	3.0628	4.3447	.0919	.2651	.4647	-.4846	1.3034	-1.1651	1.2856	1.5612	2.3423

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1200.0000	1846.7000	1900.0000	1772.0000	1500.0000	6.0000	63.0000	48.0000	20.0000	3100.0000	4300.0000
Minimum X	0.0000	0.0000	374.9998	374.9998	175.0000	4.0000	50.0000	2.0000	2.0000	484.2000	484.2000
Skew	3.0954	4.2003	-.1226	.3173	.1739	.1642	.5682	-1.4019	1.1428	1.4230	2.1763

BASES WITH H MODEL AIRCRAFT WITH AOU: E CREWS, n = 8

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	120.0000	-	875.0000	775.0000	640.0000	3.0000	29.0000	20.0000	5.0000	875.0000	875.0000
Minimum X	0.0000	-	282.0000	282.0000	75.0000	2.0000	26.0000	2.0000	1.0000	282.0000	282.0000
Skew	2.2678	-	.3696	.5991	.9314	2.2678	.0821	.6651	.4896	.3696	.3865

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	150.0000	-	1400.0000	750.0000	640.0000	[illegible]	30.0000	4.0000	3.0000	1400.0000	1550.0000
Minimum X	0.0000	-	200.0000	200.0000	75.0000	1.0000	26.0000	1.0000	1.0000	200.0000	200.0000
Skew	.7623	-	.7848	-.0696	.6851	-1.0607	-1.0733	1.3329	.7500	.7848	.8445

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	230.0000	-	1900.0000	1300.0000	1280.0000	5.0000	58.0000	48.0000	7.0000	1900.0000	2050.0000
Minimum X	0.0000	-	987.5999	800.0000	175.0000	4.0000	53.0000	4.0000	2.0000	987.5999	987.5999
Skew	1.0552	-	1.3508	1.2027	.9926	-.5164	-.5304	1.0669	.6653	1.3508	1.0925

BASES WITH H MODEL AIRCRAFT WITH AOU: R CREWS, n = 45

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	80.0000	433.5999	950.0000	800.0000	795.0000	3.0000	31.0000	18.0000	8.0000	950.0000	950.0000
Minimum X	0.0000	0.0000	156.0000	156.0000	100.0000	1.0000	24.0000	1.0000	1.0000	156.0000	156.0000
Skew	4.7904	6.1870	1.0342	.7014	.9504	.5643	.5133	.7694	2.1127	.9380	.8881

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	1000.0000	109.2000	1360.0000	1360.0000	950.0000	4.0000	36.0000	18.0000	18.0000	1360.0000	2000.0000
Minimum X	0.0000	0.0000	137.1000	137.1000	100.0000	2.0000	25.0000	1.0000	0.0000	200.0000	246.3000
Skew	4.3832	4.5950	-.1276	.3378	.5469	-.2162	1.3546	.6868	2.5530	-.0567	.6249

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1000.0000	433.5999	1772.0000	1772.0000	1500.0000	6.0000	62.0000	36.0000	20.0000	1841.4995	2750.0000
Minimum X	0.0000	0.0000	374.9998	374.9998	200.0000	4.0000	50.0000	2.0000	2.0000	484.2000	484.2000
Skew	4.2558	5.4941	-.1175	.4429	.1940	.1461	.4888	.7316	2.3453	.0303	.7392

BASES WITH MODEL H AIRCRAFT WITHOUT AOU, n = 39

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	110.0000	186.3000	850.0000	750.0000	750.0000	3.0000	31.0000	30.0000	8.0000	850.0000	850.0000
Minimum X	0.0000	0.0000	200.0000	0.0000	0.0000	1.0000	24.0000	2.0000	1.0000	200.0000	200.0000
Skew	3.9176	6.0022	.4344	.1719	.8068	.5034	.2922	1.6219	1.6929	.4074	.3903

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	1500.0000	1100.0000	2550.0000	950.0000	950.0000	4.0000	35.0000	30.0000	18.0000	2550.0000	950.0000
Minimum X	0.0000	0.0000	350.0000	250.0000	0.0000	1.0000	25.0000	2.0000	1.0000	350.0000	250.0000
Skew	3.4031	6.0022	1.9635	.6932	.5043	-.5656	1.1536	1.8137	1.9625	1.7176	1.8689

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1500.0000	1100.0000	2970.0000	1700.0000	1700.0000	7.0000	64.0000	60.0000	19.0000	2970.0000	3850.0000
Minimum X	0.0000	0.0000	618.0000	400.0000	0.0000	3.0000	50.0000	4.0000	2.0000	618.0000	618.0000
Skew	3.3126	5.7657	1.8786	.5462	.5190	.5099	.8040	1.8695	1.8727	1.6685	1.8852

BASES WITH MODEL H AIRCRAFT WITHOUT AOU: E CREWS, n = 11

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	25.0000	-	613.0000	613.0000	613.0000	3.0000	29.0000	20.0000	2.0000	613.0000	638.0000
Minimum X	0.0000	-	200.0000	200.0000	200.0000	1.0000	25.0000	3.0000	1.0000	200.0000	200.0000
Skew	2.8461	-	.4598	.5153	.4882	.1325	-.0493	.7885	1.0205	.4598	.6369

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	1500.0000	1100.0000	956.0000	738.0000	850.0000	3.0000	35.0000	18.0000	18.0000	1700.0000	3200.0000
Minimum X	0.0000	0.0000	430.0000	250.0000	0.0000	2.0000	27.0000	2.0000	1.0000	430.0000	430.0000
Skew	2.4762	2.8461	.3505	.1518	.2174	-.5671	1.9315	.2023	2.1228	1.6749	2.2845

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1500.0000	1100.0000	1295.0000	1190.0000	1302.0000	6.0000	64.0000	32.0000	19.0000	2100.0000	3600.0000
Minimum X	0.0000	0.0000	781.0000	597.0000	50.0000	4.0000	52.0000	6.0000	2.0000	781.0000	855.0000
Skew	2.4825	2.8461	-.2745	.2292	.1484	.2494	1.3256	.0797	1.8214	1.6961	2.3527

BASES WITH H MODEL AIRCRAFT WITHOUT AOU: R CREWS, n = 22

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	110.0000	186.3000	700.0000	700.0000	608.0000	3.0000	29.0000	30.0000	8.0000	700.0000	710.0000
Minimum X	0.0000	0.0000	200.0000	0.0000	0.0000	1.0000	24.0000	2.0000	1.0000	200.0000	200.0000
Skew	2.8461	4.3643	.0593	.0011	1.0050	.0002	-.6356	2.2084	1.8757	.1101	.1653

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	300.0000	-	2550.0000	900.0000	853.0000	3.0000	31.0000	30.0000	12.0000	2550.0000	2550.0000
Minimum X	0.0000	-	350.0000	250.0000	0.0000	1.0000	25.0000	2.0000	1.0000	350.0000	350.0000
Skew	.8356	-	2.3250	1.0299	.8686	-.6854	.1039	2.6019	1.1738	2.3250	1.5835

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	310.0000	186.3000	2970.0000	1418.0000	1308.0000	6.0000	58.0000	60.0000	16.0000	2970.0000	2970.0000
Minimum X	0.0000	0.0000	618.0000	400.0000	0.0000	3.0000	50.0000	4.0000	2.0000	2352.0000	2352.0000
Skew	.7641	4.3644	2.2314	-.1173	.6209	.0004	-.2123	2.5697	1.5447	2.2291	1.4991

BASES WITH H MODEL AIRCRAFT WITHOUT AOU: S CREWS, n = 6

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	-	-	850.0000	750.0000	750.0000	3.0000	31.0000	16.0000	6.0000	850.0000	850.0000
Minimum X	-	-	360.0000	240.0000	30.0000	2.0000	26.0000	2.0000	1.0000	360.0000	360.0000
Skew	-	-	.1706	.1746	.0165	.7070	1.5419	.1390	-.2204	.1706	.1706

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	1000.0000	-	2000.0000	950.0000	950.0000	4.0000	34.0000	16.0000	9.0000	2000.0000	3000.0000
Minimum X	0.0000	-	850.0000	400.0000	30.0000	3.0000	27.0000	2.0000	2.0000	850.0000	950.0000
Skew	1.3381	-	1.0105	-.6022	-.4437	1.7878	.8652	.4382	.0510	1.0105	1.4524

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	1000.0000	-	2850.0000	1700.0000	1700.0000	7.0000	61.0000	32.0000	15.0000	2850.0000	3850.0000
Minimum X	0.0000	-	1210.0000	750.0000	60.0000	5.0000	53.0000	4.0000	3.0000	1210.0000	1210.0000
Skew	1.3381	-	.8841	-.0092	-.2934	1.1263	.4989	.3299	-.1312	.8841	1.3747

BASES WITH G MODEL AIRCRAFT WITH AOU, n = 54

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	200.0000	900.0000	-	1000.0000	650.0000	3.0000	30.0000	21.0000	6.0000	900.0000	1100.0000
Minimum X	0.0000	165.9000	-	60.0000	84.5000	1.0000	24.0000	1.0000	1.0000	165.9000	165.9000
Skew	3.1951	.1369	-	.5469	.9422	.6601	.5508	-1.3740	1.2674	.1369	.3719

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	3800.0000	1970.0000	1500.0000	1200.0000	650.0000	4.0000	35.0000	21.0000	15.0000	2858.3997	4800.0000
Minimum X	0.0000	200.0000	0.0000	200.0000	69.2000	2.0000	25.0000	1.0000	1.0000	200.0000	200.0000
Skew	4.0815	1.0268	3.8885	.8091	.6852	-.3169	1.1863	-1.3939	1.2879	1.4675	2.3163

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	3860.0000	2490.0000	1500.0000	1950.0000	1050.0000	7.0000	62.0000	42.0000	17.0000	3424.8997	5340.0000
Minimum X	0.0000	515.0000	0.0000	260.0000	172.7000	4.0000	49.0000	2.0000	2.0000	515.0000	515.0000
Skew	4.0525	1.0499	3.8885	.4052	.3503	.3343	.4987	-1.5801	1.2774	1.3494	2.1047

BASES WITH G MODEL AIRCRAFT WITH AOU: E CREWS, n = 24

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	38.3000	690.0000	-	800.1000	435.0000	3.0000	30.0000	14.0000	5.0000	690.0000	692.9998
Minimum X	0.0000	524.1000	-	60.0000	84.5000	1.0000	24.0000	1.0000	1.0000	165.9000	165.9000
Skew	3.3154	-.0634	-	.6337	1.0585	.6006	.4198	.6314	.6582	-.0634	.0098

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	3700.0000	1970.0000	1175.8000	900.0000	650.0000	[illegible]	35.0000	14.0000	10.0000	2858.3997	4800.0000
Minimum X	0.0000	320.0000	0.0000	200.0000	69.2000	2.0000	25.0000	1.0000	1.0000	320.0000	320.0000
Skew	3.3158	.9969	4.5873	.2374	1.0381	-.1839	1.0937	.6195	.6916	1.7598	2.1043

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	3700.0000	2490.0000	1175.8000	1590.0000	877.0000	7.0000	62.0000	28.0000	15.0000	3424.8997	5340.0000
Minimum X	0.0000	663.3999	0.0000	260.0000	172.7000	4.0000	51.0000	2.0000	3.0000	663.3999	663.3999
Skew	3.3142	1.0893	4.5873	.3209	.4766	.7569	.4500	.7045	.6813	1.9125	2.1052

BASES WITH G MODEL AIRCRAFT WITH AOU: R CREWS, n = 21

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	200.0000	900.0000	-	1000.0000	650.0000	3.0000	30.0000	21.0000	5.0000	900.0000	1100.0000
Minimum X	0.0000	170.0000	-	170.0000	96.5000	2.0000	24.0000	1.0000	1.0000	170.0000	170.0000
Skew	2.3866	.5683	-	.8822	1.0735	1.2297	.8239	1.7964	.3555	.5683	.8118

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	200.0000	1100.000	1500.0000	800.0000	600.0000	[illegible]	31.0000	21.0000	10.0000	1700.0000	1880.0000
Minimum X	0.0000	200.0000	0.0000	200.0000	88.9000	2.0000	25.0000	1.0000	1.0000	200.0000	200.0000
Skew	.8782	.5569	2.9676	.3197	.7619	-.0957	-.1758	1.8289	2.4491	1.3561	1.3485

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	380.0000	1750.0000	1500.0000	1450.0000	1050.0000	6.0000	61.0000	42.0000	14.0000	2600.0000	2980.0000
Minimum X	0.0000	515.0000	0.0000	390.0000	193.4000	4.0000	49.0000	2.0000	2.0000	515.0000	515.0000
Skew	1.5990	.9259	2.9676	-.0045	.5473	.3406	.3423	1.8207	1.7961	1.6691	1.8963

BASES WITH G MODEL AIRCRAFT WITH AOU: S CREWS, n = 9

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	100.0000	780.4000	-	750.0000	500.0000	3.0000	29.0000	12.0000	6.0000	780.4000	780.4000
Minimum X	0.0000	520.0000	-	300.0000	123.4000	2.0000	25.0000	3.0000	2.0000	520.0000	520.0000
Skew	1.0109	.0958	-	-.3689	-.5028	-.2239	.0507	.8331	.7594	.0958	-.6788

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	3800.0000	1800.0000	400.0000	1200.0000	450.0000	[illegible]	34.0000	12.0000	15.0000	1800.0000	4300.0000
Minimum X	0.0000	500.0000	0.0000	250.0000	134.1000	2.0000	27.0000	1.0000	2.0000	500.0000	710.0000
Skew	2.4000	.0992	2.4749	.4695	-.4386	-2.4766	2.1885	.8721	1.8409	-.1866	1.7629

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	3862.6000	2488.9000	400.0000	1950.0000	900.0000	6.0000	59.0000	24.0000	17.0000	2488.9000	4975.0000
Minimum X	0.0000	1115.0000	0.0000	550.0000	257.5000	5.0000	53.0000	5.0000	5.0000	1115.0000	1380.0000
Skew	2.4755	.1211	2.4749	.0953	-.5674	.2208	.6213	1.1317	1.9487	-.1536	1.7213

BASES WITH G MODEL AIRCRAFT WITHOUT AOU, n = 113

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	120.0000	1030.0000	475.0000	876.0000	820.0000	3.0000	31.0000	62.0000	7.0000	1030.0000	1060.0000
Minimum X	0.0000	140.0000	0.0000	140.0000	20.0000	1.0000	23.0000	0.0000	1.0000	140.0000	140.0000
Skew	3.0329	.3592	9.2219	.7605	.7727	.7397	.4997	3.1688	1.1665	.3190	.3422

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	520.0000	2500.0000	1000.0000	1337.0000	900.0000	[illegible]	36.0000	36.0000	10.0000	2500.0000	2500.0000
Minimum X	0.0000	150.0000	0.0000	150.0000	20.0000	2.0000	25.0000	0.0000	1.0000	150.0000	150.0000
Skew	2.8048	1.3548	5.8493	.9022	.4026	-.9152	.9793	2.0513	1.1212	1.3643	1.1687

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	542.0000	3400.0000	1000.0000	2093.0000	1665.0000	6.0000	66.0000	72.0000	14.0000	3400.0000	3400.0000
Minimum X	0.0000	493.0000	0.0000	350.0000	40.0000	3.0000	50.0000	0.0000	2.0000	500.0000	500.0000
Skew	2.5188	1.1826	5.1833	.8024	.3146	-.0889	.8786	2.0930	1.2162	1.1938	1.0175

BASES WITH G MODEL AIRCRAFT WITHOUT AOU: E CREWS, n = 30

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	50.0000	800.0000	-	765.0000	765.0000	3.0000	31.0000	36.0000	5.0000	800.0000	815.0000
Minimum X	0.0000	149.7000	-	149.7000	40.0000	1.0000	24.0000	0.0000	1.0000	149.7000	149.7000
Skew	5.1995	.1989	-	.7276	1.2504	.7466	.6287	2.0397	1.6255	.1985	.2574

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	394.0000	2000.0000	200.0000	1200.0000	900.0000	3.0000	35.0000	36.0000	8.0000	2000.0000	2000.0000
Minimum X	0.0000	250.0000	0.0000	175.0000	50.0000	2.0000	25.0000	0.0000	1.0000	268.0000	268.0000
Skew	3.3059	1.1501	5.1995	.7262	.7678	-.1342	1.1763	2.0653	.9323	1.2478	.9482

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	394.0000	2360.0000	200.0000	1665.0000	1665.0000	6.0000	60.0000	72.0000	10.0000	2360.0000	2360.0000
Minimum X	0.0000	579.0000	0.0000	350.0000	100.0000	3.0000	50.0000	0.0000	2.0000	579.0000	579.0000
Skew	3.1638	.7744	5.1995	.7017	.8991	-.0229	.1613	2.1072	1.4679	.7468	.5792

BASES WITH G MODEL AIRCRAFT WITHOUT AOU: R CREWS, n = 62

Navigators

Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	120.0000	1030.0000	475.0000	[illegible]	[illegible]	3.0000	31.0000	3.0000	5.0000	1030.0000	1060.0000
Minimum X	0.0000	140.0000	0.0000	[illegible]	[illegible]	1.0000	23.0000	2.0000	1.0000	140.0000	140.0000
Skew	3.0863	.7323	7.1145	[illegible]	[illegible]	.2948	.3221	1.0184	2.5108	.6432	.6371

Radar Navigators

Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	350.0000	1900.0000	700.0000	[illegible]	[illegible]	3.0000	36.0000	24.0000	8.0000	1900.0000	2000.0000
Minimum X	0.0000	150.0000	0.0000	[illegible]	[illegible]	2.0000	25.0000	0.0000	1.0000	150.0000	150.0000
Skew	2.5107	1.2884	6.2946	[illegible]	[illegible]	-1.2998	1.0496	1.4481	1.0853	1.3017	1.1401

Teams

Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	350.0000	2260.0000	700.0000	1350.0000	[illegible]	6.0000	66.0000	69.0000	11.0000	2260.0000	2300.0000
Minimum X	0.0000	493.0000	0.0000	430.0000	[illegible]	4.0000	50.0000	6.0000	2.0000	500.0000	500.0000
Skew	1.9789	.6275	4.7564	.1599	[illegible]	.6427	1.1399	1.4937	1.9895	.7071	.5371

BASES WITH G MODEL AIRCRAFT WITHOUT AOU: S CREWS, n = 21

Navigators Variables	1	2	3	4	5	6	7	9	10	45	46
Maximum X	100.0000	900.0000	100.0000	876.0000	820.0000	3.0000	30.0000	33.0000	7.0000	900.0000	950.0000
Minimum X	0.0000	360.0000	0.0000	150.0000	30.0000	2.0000	26.0000	0.0000	1.0000	360.0000	360.0000
Skew	1.6359	-.3842	4.2485	.3517	.0717	.4903	.3959	2.0691	.7695	-.4163	-.4539

Radar Navigators Variables	23	24	25	26	27	28	29	31	32	47	48
Maximum X	520.0000	2500.0000	1000.0000	1337.0000	820.0000	[illegible]	32.0000	33.0000	10.0000	2500.0000	2500.0000
Minimum X	0.0000	200.0000	0.0000	240.0000	20.0000	2.0000	26.0000	0.0000	1.0000	497.0000	501.0000
Skew	1.9095	.8801	3.1087	.6302	-.1157	-1.5779	.0616	1.9989	.4829	.8485	.6949

Teams Variables	49	50	51	52	53	54	55	57	58	63	64
Maximum X	542.0000	3400.0000	1000.0000	2093.0000	1500.0000	6.0000	61.0000	66.0000	14.0000	3400.0000	3400.0000
Minimum X	0.0000	1020.0000	0.0000	490.0000	80.0000	4.0000	53.0000	0.0000	4.0000	1020.0000	1020.0000
Skew	1.6397	1.0739	3.0720	.2054	-.2678	-.0712	.7573	2.0595	.9624	.9270	.6408

APPENDIX F

ANALYSIS OF VARIANCE

The purpose of this analysis was to determine whether R, E, and S teams were significantly different from one another in terms of average crew flying hours, and to determine whether the four subpopulations defined by model type (G vs. H) and AOU equippage (equipped vs. not equipped) were alike or significantly different. The subpopulations are factor B in Tables 9 and 11. In Table 11, (1) denotes a G model base without AOU, (2) denotes an H model base without AOU, (3) denotes a G model base with AOU, and (4) denotes an H model base with AOU. Table 10 shows the contrast comparisons for team types, factor T in Table. 9.

Because there are unequal numbers of cases in each cell of the analysis, appropriate adjustments must be made, as explained, for example, in Snedecor and Cochran (1967). The approach taken here was to employ regression analysis and then summarize the results in an "adjusted" form as an ANOVA table.

The results of this analysis show that all contrasts between team types are statistically significant. The R, E, and S groupings are sufficiently unalike in their average flying hours that they may be treated as separate strata.

The results of base contrasts indicate that the G bases without AOU are very similar to H bases without AOU. However, for some reason, G bases with AOU have a significantly larger number of average flying hours than any other subgroup. The analysis does support the assertion that a sample from the sub-population of non-AOU G bases will be representative of the overall crew force (only a *sample from* AOU *equipped* G bases would not be).

TABLE 9

ANALYSIS OF VARIANCE FOR BASES (B) AND CREW TYPE (T)
BASES: AOU G vs H & Non-AOU G vs H;
Crew Types: R, E, and S.

Source	SS	df	MS	F
B (adj)	70117821.6	3	23372607.2	1252.**
T (adj)	675361149.53	2	33768074.77	6143.**
BxT (adj)	1346920688.6	6	22448671.1	4083.**
Within Cell	1418172.7	257	5496.7934	

** .01

TABLE 10

MULTIPLE COMPARISONS
FOR CREW TYPE DIFFERENCES

	T (Crews)		
	62.9010	704.3068	1093.8706
	R	E	S
R		82.4058*	471.9696*
E			389.5638*
S			

* .05

TABLE 11

MULTIPLE COMPARISONS
FOR BASE DIFFERENCES
(3 = AOU Equipped G Model Bases)

	Bases (B)			
	798.4449	797.0601	875.4531	755.8138
	1	2	3	4
1		1.3848	77.0082*	42.6311
2			78.3930*	41.2463
3				119.6393*
4				

* .05

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